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THE PUBLIC SECTOR AND THE THEORY OF ECONOMIC GROWTH[1]

I

In 1948, Mr. Harrod wrote: 'The Keynesian concepts are not enough. And the crying need is for the reformulation of dynamic concepts and the enunciation of a minimum set of truistic dynamic principles.'[2] A decade later the major economic journals bear witness to the seriousness of the attempt to develop a theory of economic growth by 'dynamising' Keynesian macro-static models, and the pioneer work of Harrod, Lundberg and Domar,[3] to name the most prominent writers, has inspired many theorists to make their mark by constructing their particular variant of the earlier growth models.

The earlier models, and, indeed, many of the later variants have usually ignored the place of the public sector as a major decision-maker in the economy. Domar has offered explicit reasons for doing so which are worth noting. He writes: '. . . government is the most troublesome of the three (forms of expenditure) because we have no theory of government expenditure. In its absence we may dump government expenditure on top of the other two as an exogenous factor, merge it with consumer expenditure . . . or assume it away altogether. This last suggestion is certainly the most convenient of all and such treatment of a troublesome factor is richly supported by precedents in economic theory'.[4] Domar, then, is content to follow

[1] I am grateful to Mr. D. G. M. Dosser of the University of Edinburgh and Dr. Edwin Mills of the Johns Hopkins University for helpful comments and suggestions in writing this article.

[2] R. F. Harrod, *Towards a Dynamic Economics*, 1948, p. 14.

[3] See the rather neglected work *Studies in the Theory of Economic Expansion* by E. Lundberg, Stockholm, 1937, especially Chapter 9. Domar's earlier articles have recently been reprinted in his *Essays in the Theory of Economic Growth*, New York, 1957.

[4] E. Domar, op. cit., p. 20.

the procedure of those who have developed static Keynesian models. The aggregate G, representing government expenditure on goods and services in these models, either remains outside the area of mutual determination or it is assumed to be equal to zero.

Recently, however, a small number of writers on public finance concerned with the role of fiscal policy in a growing economy have chosen to build into their models a theory of public expenditure, although, as we shall see later, the theory may only be implicit in the models.[5]

The main purpose of this article is to examine a model of this sort and to discuss some of the difficulties associated with it.

II

Let us start with the simplest case of an economy in which government transactions and international transactions can be ignored. We wish to determine the growth path of national income consistent with the maintenance of full employment, for, given a positive rate of investment, it can no longer be assumed that the level of national income consistent with full employment will remain unchanged. In other words, we need to build a supply function for the whole economy into our set of Keynesian equations. It is usual in growth models to assume, as a first approximation, that there is a linear relation between the rate of net investment per unit of time (I) and the rate of change of income per unit of time (ΔY), denoted by the coefficient (σ), or marginal output-capital ratio. The value of the coefficient can be determined by empirical investigation.[6]

Using a simple first-order difference equation, we can write our supply function as follows:

$$Y_t - Y_{t-1} = \sigma I_{t-1}$$

that is the rate of growth of income between period t and $t-1$, is a fixed proportion of the rate of investment in period $t-1$. The equilibrium condition is that expected saving and expected investment

[5] See J. G. Gurley, 'Fiscal Policy in a Growing Economy,' *Journal of Political Economy*, LXI, December 1953, pp. 523-35 with reply by W. L. Smith same journal, October 1954; also Warren L. Smith, 'Monetary-Fiscal Policy and Economic Growth', *Quarterly Journal of Economics*, LXXI, February 1957, pp. 36-55, and A. Smithies, 'The Control of Inflation', *Review of Economies and Statistics*, August 1957, pp. 282-3. For a model of a different order, see K. Kurihara, 'Growth Models and Fiscal Policy Parameters', *Public Finance* No. 2, 1956, pp. 148-61.

[6] For calculations of this sort, see, for example, John H. Adler, 'World Economic Growth—Retrospect and Prospects', *Review of Economics and Statistics*, Vol. XXXVIII, 1956, p. 274. Adler calculates the gross capital-output ratio for a number of countries, i.e. the reciprocal of the coefficient σ.

are equal, and assuming that the proportion of personal (=national) income (s) is given, we can write this condition as follows:

$$I_{t-1} = sY_{t-1} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (1)$$

By substitution we get $Y_t - Y_{t-1} = \sigma s Y_{t-1}$

or $Y_t = (\sigma s + 1) Y_{t-1}$

It follows that if we begin with an initial full employment income Y_0

$$Y_t = (\sigma s + 1)^t Y_0 \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (2)$$

e.g. if $\sigma = \cdot 3$ and $s = \cdot 2$, then $(\sigma s + 1) = 1 \cdot 06$, i.e. real national output or income must grow at 6 per cent. per annum if full employment is to be maintained.

It requires little imagination to see that this model is *simpliste* in the extreme. For example, it assumes that the average productivity of 'capital' (however that is to be defined) is constant. It also assumes a constant savings coefficient. A host of criticisms of this sort has already been made.[7] However, we are concerned with another branch of criticism, and none of the criticisms of these models as such is likely to affect our later argument.

III

The introduction of a public sector into our economy occasions the presentation of a number of variations on our theme which serve to increase the number of terms in the bracket in equation (2). We have now to define the types of expenditure in the public budget and the forms of taxation to finance them. These will depend on whether we choose to adopt some general theory of public sector activities or whether we merely consider alternative patterns of expenditure and taxation, i.e. we adopt a 'taxonomic' approach. We shall consider the value of these different approaches at a later stage. For the moment let us be content to follow the procedure adopted in previous contributions and assume that government expenditures are solely on goods and services and are some given proportion (g) of full employment national income (Y_t) and that these expenditures are financed by a proportional direct tax of a rate (v) which is paid by both personal income receivers and by undistributed business profits. We shall find that even these limiting assumptions produce enough complications demanding detailed consideration. Indeed, our own version is in some respects more elaborate than those already constructed.

[7] See, for example, R. Solow, 'A Contribution to the Theory of Economic Growth', *Quarterly Journal of Economics*, Vol. LXX, February 1956, pp. 65-94 and N. Kaldor, 'A Model of Economic Growth', *Economic Journal*, Vol. LXVII, December 1957, pp. 591-624.

With the introduction of the public sector and business saving our equilibrium condition for the maintenance of a full employment rate of growth in national income becomes:

$$I^t = S^h{}_t + S^r{}_t + S^g{}_t \quad . \quad . \quad . \quad . \quad . \quad (3)$$

where $S^h{}_t$ = personal saving of households after tax in period t.

$S^r{}_t$ = business saving (undistributed profits) after tax in period t.

$S^g{}_t$ = public sector saving (total taxes *minus* government expenditure on goods and services) in period t.

Now, by definition, national income (Y_t) is equal to personal income plus undistributed profits before tax. Let us assume that undistributed profits before tax are a fixed proportion (b) of national income. Given that undistributed profits are taxed at the same rate (v) as personal income, then

$$S^r{}_t = bY_t - bvY_t = bY_t(1 - v)$$

Personal income before tax being equal to national income minus undistributed profits before tax, then it can be expressed in the form $(1 - b)\,Y_t$. If personal income is taxed at rate (v), then

$$S^h{}_t = s\,[(1 - b)\,Y_t - v\,(1 - b)\,Y_t] = s\,[(1 - b)(1 - v)]\,Y_t$$

where s is the savings coefficient of households as a whole.
Similarly,

$$S^g{}_t = vY_t - gY_t$$

Substituting in (3) and in (1) we have

$$I_t = [s(1-b)+b](1-v)+v-g\;Y_t$$

and finally our new growth path is given by the first-order difference equation

$$Y_t = \left(\sigma\left\{[s(1-b)+b](1-v)+v-g\right\}+1\right)^t Y_0 \quad . \quad . \quad . \quad (4)$$

Let us call the expression in the brackets { } , h. Then, if there is no business saving (b=0),

$$h = \{s(1-v)+v-g\} \quad . \quad . \quad . \quad . \quad . \quad . \quad (4a)$$

If there is no business saving and we have a balanced budget condition ($vY_t = gY_t$, so $v = g$), then

$$h = \{s(1-v)\} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (4b)$$

Finally, if there is no public sector and no business saving

$$h = \{s\} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (4c)$$

as we would expect from equation (2).

As before, let us choose arbitrary values for our coefficients,

e.g. $s = \cdot 2$, $b = \cdot 2$, $v = \cdot 15$, $g = \cdot 1$, $\sigma = \cdot 3$

then $Y_t = (\cdot 3 \{ [\cdot 2(1 - \cdot 2) + \cdot 2](1 - \cdot 15) + \cdot 15 - \cdot 1\} + 1)^t Y_o$

or $= (1 \cdot 107)^t Y_o$

i.e. the equilibrium growth rate is between 10 and 11 per cent. per annum.

Let us now consider the effect on the growth path of a change in each coefficient. A rise in s will, other things remaining the same, raise the required growth rate because total saving will rise. However, in the case of a rise in v, the effect will depend on the values of the other coefficients, because a rise in taxes, while it will raise the level of government saving, it will also reduce business and private saving. So long as $s < 1$, a rise in b, and thus in business savings before tax, will raise the total saving, although private saving will be reduced by the fall in proportion of personal to national income. A rise in g, which will produce a fall in government saving, will always reduce total savings, other things being equal, so that the required rate of growth will be reduced. The case where the coefficients are reduced produces symmetrical results, so it need not be considered.

IV

So far we have only stated the requirements for stable growth, but this does not mean that the economy will tend to remain on the path of stable growth. We, therefore, need to consider what the growth tendencies in any economy are likely to be, and this requires us to consider in more detail the behaviour of the various actors on the economic scene.

In any closed economy with government, national expenditure (Y_e) will be equal to the expenditure of households, of businesses and of government and, by definition, national income (Y_t) will equal national expenditure, i.e.

$$Y_t \equiv Y_e \equiv C + I + G \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (5)$$

where C = expenditure on consumption goods

I = expenditure on 'new' capital goods (net investment)

G = expenditure on goods and services by government.

We shall assume that expenditure of households in period t is a fixed proportion (a) of personal income after tax in period t, i.e. there is no 'lag' in consumption expenditure.

Thus

$$C_t = [(1 - b)Y_t - v(1 - b)Y_t] = [(1 - b)(1 - v)]Y_t$$

We shall assume that there are two separate components $i^{(1)}$ and $i^{(2)}$ to our investment equation so that $i^{(1)}+i^{(2)}\equiv I$. In the first place we assume that all business savings in period t−1, net of taxes at rate v, are invested in new capital goods in period t, so that

$$i^{(1)}_t = b(1-v)Y_{t-1}$$

We shall assume that there is a type of 'accelerator' (k) at work and that this depends on past income rather than, as in the usual case, on the rate of change of past income;[8] so that

$$i^{(2)}_t = kY_{t-1} \text{ where } 0 < k < 1$$

Finally, as before, we assume that government expenditure in period t is a fixed proportion of national income in the same period so that

$$G_t = gY_t$$

Substituting in (5) we have

$$Y_t = a[(1-b)(1-v)]Y_t + b(1-v)Y_{t-1} + kY_{t-1} + gY_t$$

The characteristic equation of this expression is

$$Y_t = \left\{\frac{k+b(1-v)}{1-a(1-b)(1-v)-g}\right\}^t Y_o \quad \ldots\ldots\ldots \quad (6)$$

The actual rate of growth will correspond with the required rate of growth, given Y_o equal in both cases, if the expression in large brackets in equation (6) is equal to the expression in large brackets in equation (4).

For example, if we assume identical values for all the coefficients common to both equations, then we have one equation and one unknown (k)[9] as follows:

$$\left\{\frac{k+\cdot 2(1-\cdot 15)}{1-\cdot 8(1-\cdot 2)(1-\cdot 15)-\cdot 1}\right\} = 1\cdot 107$$

$$k = \cdot 22 \text{ approx.})$$

[8] This assumption might be difficult to defend, were we concerned with the presentation of a 'realistic' model. However, consider some of the alternatives. If we introduce an accelerator with a one period lag so that $i^{(2)}_t = k(Y_t - Y_{t-1})$, where k is normally greater than 1, then ridiculous results are obtained. If it were embodied in our model, income generation would be accelerated by a rise in the rate of personal saving! (On this point, see T. C. Schelling, 'Capital Growth and Equilibrium', *American Economic Review*, December 1947, pp. 873-75.) If we introduce a two period lag so that $i_t^{(2)} = k(Y_{t-1} - Y_{t-2})$, then we are involved in the intricacies of second order difference equations which have been carefully avoided in the type of models we wish to scrutinise! If we introduce an autonomous investment component as a substitute for our component, our equation becomes non-homogeneous and untidy! If we follow Professor Warren Smith's procedure in his 1957 article (see footnote 5), and assume that the level of investment is a function solely of undistributed profits after tax, it can be shown that for reasonably realistic values of b, the expression in the brackets, although positive, could easily be < 1, so that $Y_t \to 0$ as $t \to$

[9] The value of (a), the consumption coefficient is ·8, because, by definition, $a = (1-s)$.

In other words, if the initial level of income in both cases is equal to the full-employment level Y_o, then the actual rate of growth will be equal to the required rate of growth if the value of the 'accelerator' is about ·22.

The implications of this model for fiscal policy now become clear.[10] If the actual rate of growth does not correspond to the required rate of growth, adjustment can be made, in theory at least, in the tax or expenditure rates of the government. This is a more complicated matter than it may seem at first sight. Using our example, the government, in order to maintain stable growth, should fix k at ·22, because if k were $>$·22, this would mean secular inflation, and if k were $<$·22, secular stagnation. However, in our model, as in others, the government is assumed to influence only the first investment component, $i^{(1)}_t$, through the taxation of business saving. Consider what would happen if k were $>$·22. In order to conform to the required rate of growth of 10·7 per cent. per annum in national income, the investment component $i^{(1)}_t$ would have to be reduced by raising v.[11] However, raising v must also raise the aggregate rate of saving of the community, unless some offsetting adjustment is made in the tax burden of personal income receivers. Thus, in order to conform to the given growth rate, personal incomes would have to be taxed at a lower rate than business saving. The alternative would be for the government to 'condone' the higher investment rate and to raise the level of saving by means of a higher tax rate or lower government expenditure rate so that *ex ante* saving and investment are equated at a new, higher level. This means, in effect, that the government would not only attempt to maintain stable growth but also a higher rate of growth. Whichever

[10] For a discussion of the place of monetary policy in such models, see pp. 46-51 in Professor Warren Smith's 1957 article. It is clear that in our model, monetary policy assumptions are important because unless businesses have large reserves, investment over and above that financed by undistributed profits will have to be financed through the capital market. We must assume, therefore, that monetary policy is adjusted in order to prevent interest rates from rising.

[11] If the level of investment is to remain constant then the following condition must be fulfilled:

$$\Delta I_t = \Delta i^{(1)}_t + \Delta i^{(2)}_t = 0$$

Writing k^1 as the new investment coefficient ($k^1 > k$) and v^1 as the new tax rate ($v^1 > v$), then this condition may be rewritten as follows:

$$(k^1 - k)Y_{t-1} + b(1 - v^1)Y_{t-1} - b(1 - v)Y_{t-1} = 0$$

$$\text{or } (k^1 - k) + b(v - v^1) = 0$$

For example, if $k^1 = ·25$, then if the condition $\Delta I_t = 0$ is to hold, the new tax rate v^1 has to be ·3 or twice the previous rate of ·15.

approach is chosen in order to maintain stability, it is clear that important policy decisions have to be made.

Our analysis shows that no government whose transactions are other than negligible within the framework of the economy can ignore the effects of these transactions on the growth path. This is not to imply that altering the pace of economic development in order to maintain stable economic growth is necessarily paramount in government policy, but merely to make clear that *consistency* in policy-making implies some kind of model building, however crude.[12]

However, our defence of model building assumes that the model we choose to use for policy purposes sufficiently approximates to actual situations to be useful. Unfortunately, this is not the case in respect to the type of growth model we have outlined. In the next section I attempt to explain why this is so.

V

The first criticism of models of this sort must be that the number of variables considered is much smaller than the 'tolerable' number of aggregates necessary for policy purposes. As mentioned above, we do not propose to consider the theory of production written into models of this sort. Nor is it the purpose of this article to consider criticism of the theory of investment and saving in our study of growth tendencies. We shall concentrate here on the transactions of the public sector alone.

On the expenditure side of the budget, we have neglected transfers, such as social security payments. No particular difficulty is encountered in embodying these payments, either as negative taxes or as payments. However, it is advisable to specify transfer receivers as a group, which implies at least the introduction of two classes of income receivers with different tax burdens and, if thought appropriate, different propensities to consume.[13]

On the revenue side, an awkward problem of analysis arises if we attempt to introduce indirect taxes, and it is significant that in few models of the static Keynesian type, and in none of the models of the Harrod-Domar type, has an attempt been made to build in an indirect or expenditure tax function. The main problem here is that of the incidence of expenditure taxes. This is not the place to

[12] On this point, see particularly J. Tinbergen, *Economic Policy: Principles and Design*, Chapter 2.

[13] A model of this sort is to be found in K. Kurihara, op cit., p. 156.

examine the implications of the problem of incidence for stabilisation policy ; it is only necessary to say that recent analysis indicates how complicated the shifting problem becomes once we operate in a general equilibrium setting.[14] The real trouble concerns the introduction of price changes associated with tax shifting into models of this sort. If we could argue that expenditure taxes were not passed forward, it could be assumed that they were borne by profits or by all factors of production and they could be lumped together with direct taxes, but this highly arbitrary procedure raises further difficulties regarding the effects of such taxation on the distribution of factor incomes and thus on the value of the savings coefficient. If we assume that producers attempt to shift expenditure taxes forward to consumers, there are further complications. Householders real income will be cut. If they maintain their real consumption, then their saving will be cut (in money terms) by the amount of the extra money now spent on consumption and this implies a change in the savings coefficient. If we take the other extreme (the ' money illusion ' case) and households maintain their consumption in money terms, while the savings coefficient will not alter, producers as a whole will not be able to shift the tax completely forward, unless all supply curves are completely elastic. Another obvious problem is the determination of the time taken for adjustments from one equilibrium position to another. Here we can only claim to have recognised that there is a problem to be faced, but, like the Presbyterian minister in the well-known story, having looked the difficulty in the face, we intend to leave it on one side.

The second set of difficulties has already been hinted at in our consideration of indirect taxes. It is assumed in these models that the values of the coefficient are separate and independent. We have seen that a change in price levels produced by changes in the indirect tax coefficient, may induce changes in the savings coefficient. The same problem of interdependence may be encountered in any tax changes which alter the distribution of income after tax, unless, of course, we assume that the savings coefficient is for all practical purposes independent of income distribution. A crude and rather cumbersome way of getting round this problem is to assume, as in the transfer case, separate savings coefficients for different income groups and to examine the effects of different distributions of taxation between them. This difficulty is a well-known one, and stems from the earlier criticisms

[14] Among recent discussions on this subject, we may mention the controversy between Musgrave and Rolph. See R. A. Musgrave, ' On Incidence ', *Journal of Political Economy*, Vol. 61, August 1953, pp. 306-23 and E. R. Rolph, *Theory of Fiscal Economics*, Chapter V.

of the alleged stability of Keynesian consumption function. Not so obvious, however, are changes in distribution brought about by changes in the *composition* of government expenditure on goods and services which may take place without a change in the government spending coefficient (g). A re-direction of government purchases as between different industrial sectors, while it will not alter the aggregate value of 'final' inputs, i.e. factor payments and imports, will alter occupational income distribution.[15] The importance of this effect will depend, of course, on the degree of industrial interdependence in the economy, the magnitude of the changes in government expenditure composition, and the effects of changes in occupational income distribution on savings habits.

Throughout this analysis we have also been assuming that the capital coefficient (σ) is independent of the composition of government expenditure. Government expenditure on goods and services may include, of course, expenditure on capital formation and decisions of government in this regard may alter both the level of investment and also its composition. There are further problems here connected with the definition of government capital formation and the measurement of its productivity which are well known. Abstracting from problems of definition and measurement, this interdependency does suggest an additional tool for influencing the rate of growth.[16]

Our last set of criticisms brings us face to face with the central problem of the place of the public sector in growth models which we mentioned in passing at the beginning of section III of this article. One obvious method to employ is to begin by stating some given objective or a set of objectives of policy, for example the maintenance of a particular stable growth rate and then to devise, on the basis of the assumptions of a model without government, the necessary tax or expenditure adjustments which are required to achieve the objective or objectives. In other words the structure of the budget is *prescribed*, once the assumptions of the model and their implications have been worked out, but the *actual behaviour* of governments is not considered, whether or not the list of objectives considered is one which governments are likely to pursue. The alternative approach is to develop a theory of government expenditure based on close examination of the process of decision-making at all levels of government, and to translate the results of such an examination into tax and expenditure structures. We could then compare the actual structures implied by this examination with those prescribed by the particular policies we

[15] On this point see further, A. T. Peacock and I. G. Stewart, 'Fiscal Policy and the Composition of Government Purchases', *Public Finance*, Vol. XIII, 1958, No. 2, pp. 135-44.

[16] For a more detailed analysis of this issue, see Kurihara, op. cit., 157-59.

wish to examine. Probably the only conclusion reached after such an examination would be a firm belief in the impossibility of making any simple generalisations which could be incorporated in growth models!

What support can we enlist for the simple generalisation that government expenditure on goods and services is a constant proportion of national income? It might be argued that many forms of government expenditure are likely to grow as income grows, especially environmental and educational services which are considered to be preconditions of economic progress in an industrial society. The difficult problem of defence expenditure might be got round by the argument that, while it may be determined by factors outside the economic system, its increase or decrease affects the level of other expenditures. More generally, it might be argued that government expenditure growth depends on the community's idea of 'tolerable' tax burdens as reflected in tax *rates* and that in relatively peaceful times these rates are not likely to vary greatly.[17] At least, an assumption which has obvious analytical convenience might be rationalised in this way. Another problem in analysing government behaviour relates to a political structure where decision-making is decentralised. This not only complicates the question of deducing useful assumptions from studies of the process of decision-making, but affects the possibility of taking action to further the end of preserving stable growth, unless strong influence can be brought to bear by the central or local governments. One possible simplification here would be to assume that the balanced-budget constraint applies to local governments while it does not apply to central government.[17]

VI

Growth models, like other kinds of economic models, are useful as 'instruments of arrangement.'[18] They provide a framework for consideration of the problems of the long period by clear adaptation of Keynesian techniques originally employed in studying the problems of the short period.

[17] This thesis is considered at length in my forthcoming book with Jack Wiseman on *The Growth of Public Expenditure in the United Kingdom, 1890-1955*, National Bureau of Economic Research, Chapters V and VIII (mimeographed version, 1958).

[18] One might, for example, employ the technique used for Keynesian static models by Harold M. Somers in his article 'The Multiplier in a Tri-Fiscal Economy', *Quarterly Journal of Economics*, LXIII, 1949, pp. 258-72.

[19] To use an apt expression employed in another context by Professor Hicks. See his *A Revision of Demand Theory*, 1956, p. 17.

There is a danger, however, that in the search for general conclusions we are led to adopt specialised assumptions such as the neglect of the public sector altogether or the use, for mathematical convenience perhaps, of a very simple set of budget operations. If we wish to employ growth models in order to test separate policy aims for mutual consistency, then we have to adapt our assumptions accordingly, but in the process, as we have found in the argument above, some of the initial assumptions regarding the independent nature of the coefficients may have to be reconsidered.

A. T. PEACOCK

University of Edinburgh

CHEERFUL DELINQUENTS AND GREY SCRUBBERS: AN HYPOTHESIS ON PROBLEM BEHAVIOUR

THE hypothesis put forward in this paper is that problem behaviour can be attributed to one or other of two types of person, labelled 'cheerful delinquents' and 'grey scrubbers.' This hypothesis emerged in the course of a piece of general research into the sociology of problem families, and although the hypothesis might usefully apply to a wider range of human behaviour than that of problem families, it is in the context of the original study that the evidence is organised.

Problem families, for the purposes of the enquiry, were taken to be families presenting problems to one or more of a variety of social agencies. Interviews were conducted with a number of people working in such agencies, including professional social workers dealing with applications for relief, hospital almoners, a psychiatric social worker, a school psychologist and a school attendance officer, health visitors, probation officers, factory personnel managers, police officials, and several general medical practitioners. All of these operated in the same general area, the Govan district of Glasgow, though the boundaries of each agency were not, of course, the same.

Each interview was loosely arranged round the following questions:

(1) What are the situations in the practice of your work with which you cannot deal satisfactorily?

(2) What kind of individual or family is involved?

(3) Are all your problem cases the same, or would you divide them into categories, either of situation or of persons? Describe the categories. What measures have you of the size of each?

Almost all the 'practitioners' approached showed a keen interest and all without exception agreed to help. The most obvious variation in their response was in their estimates of the weight of problem cases in their 'practice.' These varied as widely as possible, from none to 100 per cent.

At the bottom end of the scale was the case of the police official who did not think that he had any particular kind of problem in his division over and above the basic one that all criminal behaviour presents a problem. That is, there was no kind of behaviour and no group of persons that did not 'respond to treatment.' A garage mechanic might have said the same about the cars brought in to him for repair. They were all faulty, but then he only expected to receive faulty cars and could fix them or dispose of them according to degree

of damage. There were, however, a group of people in his division whom he called ' defective personalities ' who were continually being charged with small crimes, mostly house-breaking; some had over 50 offences. These he obviously regarded as belonging to something like a criminal class. Their parents, he said, were often criminals who did not care very much, and the house-breakers themselves, mostly young boys, just went on until they were caught, showing no sense of remorse or of regarding it as very important one way or the other when they were caught. His view of these people was that they didn't know any better. He bore them no grudge nor was he particularly interested in their development; his job was to prevent the nuisance or to catch the offenders.

In the same class was a General Medical Practitioner with a practice on the outskirts of Govan towards Paisley Road West, in a district not very different from the suburban districts of many English cities and in contrast to the closely packed tenements of central Govan. He said that he had no problem patients. By this he meant he had no patients who pestered him without being ill and he had none suffering from what he diagnosed as treatable diseases who did not respond to treatment. He thought that his was a particularly good practice in this respect and, perhaps, that he himself was a particularly good doctor. The number of calls and consultations carried out by himself and his two partners in the previous twelve months had been about five times the size of their list. This is roughly half the number of consultations carried out by the average city practitioner. In the same period, the three doctors between them had had only five night calls other than confinements. Of what he called ' silly ' calls, *e.g.* from a mother who thought that her child was dying because it had developed a cold, they had less than half a dozen in a year. He had no substantial number of problem patients such as are described later as being on other doctors' lists and his view was that any doctor who said he had large numbers of such patients was either a liar or a very poor doctor. He was prepared to believe that other doctors might view as problem patients individuals who were only suffering from ' downright badness.' He dealt with people like this in a straightforward manner, and let them understand that he would stand no nonsense. This apparently either cured them of their ' downright badness ' or kept them away. The doctor said that people didn't want a brilliant doctor to make clever diagnoses. They wanted someone ' to look after them and to advise them about all sorts of things and to talk to them straight when they needed it.' That is, they wanted somebody like him! (He said that he had never had a patient transfer on account of his ' straightforward ' treatment.) These were the

two practitioners who regarded the proportion of problem cases among their case load as low.

At the other end of the scale an officer of the Society for the Prevention of Cruelty to Children thought that the population which provided his cases were 'scum,' that 'they would never be anything else,' that any treatment was a waste of time and that 'they ought to be put into a concentration camp and not allowed to eat unless they worked.' Most of the parents on his books he regarded as neglectful rather than cruel and was of the opinion that 'people had too much done for them and this decreased their sense of responsibility.' In short, all his cases were problem cases or, to put his point of view in a different way, the service which his organisation was providing was one which ought not to be necessary.

Between these two extremes other administrators made various estimates of the size of the problem group among their own cases and described this group in various ways. For example, the Govan office of the Glasgow Society of Social Service estimated that for 30-40 per cent. of their cases the treatment which the agency provided, or could provide, was inadequate. The difficulty was not only, for example, a shortage of funds or of help. The agency just did not know what to do with them. Similarly, a number of doctors in general practice thought that a large proportion of their consultations involved people who were not physically ill in the sense that they had some organic damage or infection. Four doctors specifically mentioned 30 per cent. as the size of this section of their patients whom they described in such terms as 'inadequate personalities,' 'individuals with a weakness' or 'ineffective types.'

As the interviews proceeded, there did not appear to be any obvious overlap between the problem groups described by different agencies. Yet the descriptions did seem to refer to two quite different kinds of problem behaviour. The evidence pointed towards the hypothesis implied in the title, and elaborated at the end of this article, although the interviews were not conducted in the first place to help to frame this or any other hypothesis.

THE INTERVIEWS

The interviews are summarised in the following pages either individually, or in groups where several 'practitioners' made substantially the same points. There is no special significance in the order in which they are presented except that they are roughly in the order of their contribution to the general hypothesis. The interviews are written in the form of summary statements by the persons inter-

viewed, and where possible their own phraseology has been preserved. Comments or other observations are written in brackets. Additional material which makes very little contribution to the main theme of the paper has nevertheless been retained since it helps to describe the area in which the work was done and the attitude of the relevant practitioner.

1. Police Official

The gist of the evidence offered by the Police Official has already been recorded. Other information and views are summarised below:—

Housebreaking

In the division at present there are two or three cases per day. Mainly young people of sixteen and over are involved—they give it up by the time they reach thirty 'because they are not sufficiently agile after that.' They are not organised in gangs but usually work in groups of two or three. They usually break into private houses—rather than pubs or shops. The police find it difficult to catch this type of criminal—by the time the boys are caught they often have 30-50 offences to account for. These people are 'defective personalities'—of poor social class—the children of apathetic parents who have often been criminals themselves—many of them old inhabitants from older parts of Govan. The boys were confirmed petty criminals from early childhood—didn't normally go in for serious crime but as far as their general attitude went they were 'incurable.'

Youth Gangs and Teddy Boys

Not all are vicious. They indulge in hooligan behaviour and circulate in loosely organised gangs which are easy to break up once the boys get into trouble with the police and can, therefore, be made to realise how dangerous and unpleasant their behaviour is. They are not normally housebreakers and usually come from a better type of home than the boys described in the previous category.

Crimes of violence

Most of the cases of violence involve people who are not necessarily criminals in other respects. As for cause, it is sometimes drink, sometimes violent tempers, or nagging wives who 'asked for it.'

Gambling

There are about 100 bookmakers' agents in the Govan division, mostly working for offices in the city. The premises which they use are without proper sanitary arrangements or facilities for handling

large numbers of men; hence all kinds of nuisances arise which will not necessarily disappear if and when betting shops are legalised. Most such bookies would be unwilling to invest the necessary capital in a satisfactory building. There is never any fighting about non-payment of winnings from street bookies. Just after the war, such fights were frequent at the local dog-track which attracted as many as 10,000 people per session; attendances are now down to 2,000 and photo-finish arrangements make such disputes rare. Street betting is very widespread and as long as the police have to be against it, a large proportion of the population will regard the police with suspicion. Public co-operation with the police, however, is better than in neighbouring districts of Glasgow, *e.g.* in the Gorbals area, and is improving.

(This is not what the same interviewee said a year earlier. Newspapers often report brushes between the police and crowds trying to prevent the arrest of a 'drunk,' which suggests that co-operation between the public and the police is not universal. There have been a few cases of this kind in the past year as well as other examples of non-co-operation on the part of the public. There have also been cases of policemen being accused of beating-up individuals. There is no doubt that senior officials in the police are anxious to present a good picture as well as to improve the public's attitude towards them.)

2. General Medical Practitioner A

This is the doctor referred to earlier in the paper who considered that he had no 'problem patients.' The doctor himself was a staunch and enthusiastic Roman Catholic. His two partners were also Catholics but among his patients only 20 per cent. were.

A summary of this interview was given at the beginning of the paper but one or two additional points are worth noting.

Mental Illness

One or two individuals who had been told by other doctors that their illness was mainly psychological had transferred to him. He had *always* found some organic trouble and had usually been able to treat successfully. He thought that many G.P.s were accepting the possibility of psycho-somatic illness too readily. It enabled them to pass on the job to somebody else—they ought to 'listen to the patient's story' and treat the symptom. On the odd occasion when he had sent patients along to the Psychiatric Clinic at the local hospital (Southern General) they had come back showing no improvement. His patients had their emotional difficulties but they were of the kind which were fairly readily understood.

General

Before settling in the present practice he had worked as Public Assistance doctor in Govan and later had helped to man a Civil Defence post there. Since the end of the war his experience of the older parts of Govan had been at second-hand but he had formed the impression that there were developing there a lot of 'leaners' who, after a few years would not be able to do anything for themselves. He cited as typical the case of the mother who said that her 'wean' was ill, that somebody would need to take it to the hospital as she was going to the pictures and couldn't look after it at home.

Young Girls

He often received requests from young girls for a 'sick line' to stay off work. In many such cases the girls were fed up with their jobs and wanted a holiday or wanted to change jobs—they were often rather run-down but not specifically ill. In such cases, he gave them a note enabling them to stay off work but refused to give them one to claim insurance 'as this was getting money under false pretences.' In many instances he sympathised with the girls, who were doing jobs which were not particularly feminine and in which they were not very interested. This group was the nearest he got to a group of problem patients.

Older Women

He was occasionally consulted by older women who were at a loss when their children had grown up and they noticed that their own and their husbands' interests had diverged while they had been busy with the children. Now, in addition to having to bear the strain of the menopausal period they wanted somebody to take an interest in them and were rather nervy. Rather than prescribe sedatives, he often advised such women to start smoking. A few husbands had grumbled at the extra expense but all had later agreed that their wives were now pleasanter to live with.

On the whole, he thought that the ideal general practitioner, who could cope with almost anything on his own, was a firm, benevolent, paternal figure willing to spend plenty of time listening to his patients and helping them rather than rush into clever diagnosis. Most of the specialists, particularly the psychiatrists, were over-rated and the real need for them was not so great as many would have us believe.

3. Personnel Manager A

Factory employing about 800, 10 per cent, of whom were women. There was no group of employees in this factory who presented any

particular problem. The regular absentees were those who worked at week-ends on overtime rates and had a day off during the week to rest. Some men, he thought, had two jobs.

He was often consulted by people who had got into difficulties over hire purchase and often, too, by wives who wanted to get hold of their husbands' wages; the wife did not usually know how much the husband was earning.

Gambling and drink were the two main evils, he thought. The housing estates out of Govan were all 'dry'; this didn't stop the men drinking but only forced them to travel farther and stay in the pubs longer.

None of the apprentices at this factory were known to be in trouble but the Personnel Manager thought that one of the difficulties with regard to juvenile delinquency was that boys were too old at 16½ years to start apprenticeship training (i.e. they couldn't get deferment of National Service) and yet schools were turning out boys of this age who had failed to make the grade for their 'Highers.'

The Sister in this factory said that there were people who pestered her for treatment for trivial injuries or illnesses. Often they were young girls who were listless and worn out due, she thought, to insufficient sleep and generally making too much of their new freedom. Small accidents were frequent, particularly on Fridays.

4. Personnel Manager B

Factory employing about 200 women and 40 men on rope-making. About half the women are married though the firm's policy is not to employ women with young children. There is a great amount of illness in the factory, mainly of the 'anaemia,' 'run down,' 'depression' type. In the week before the interview the surgery dealt with 900 treatments, i.e. roughly four treatments for every one employed. Treatment is given for any illness which the girls have while at work and for accidents. Though most of the illnesses were trivial and the treatments simple—a bandage for a cut finger or an aspirin and a rest for a girl with period pains—the fact that so many calls were made at least suggests that there were other difficulties in the life of the factory as well. The same firm has a factory at Port Glasgow where, they consider, the girls are fitter and of a better type than those in Govan. (Incidentally, the girls at the firm's Port Glasgow factory have the reputation of being aggressive and rather uncouth.) The main illness problems at the Govan factory arise in connection with girls who are not ill enough to stay at home or those who ought to be at home but have no one there to look after them. They thus carry

on working and have minor troubles more or less continually. In some of the cases mentioned the personnel manager found out that there was trouble between the girl and her parents, e.g. a drunken father who forced the girl to give up her wages. Girls in these circumstances were the same girls who could not usefully take sick leave : there was not enough room in the home and the strain of family life was getting them down. Although the number of such cases was not known, the situation was described with great emphasis. Such girls were a burden in personnel management out of all proportion to their numbers.

Another common problem situation was of wives living with in-laws or with their own parents after marriage. On the other hand there were hardly any cases of serious marital difficulties—no desertions or separations had been brought to the notice of the Personnel Manager for a long time—nor had there been many difficulties over hire purchase. There had been one or two unmarried mothers, some with more than one illegitimate child. From the men's side the Personnel Manager thought that the most frequent cause of difficulty was desertion by the wife.

The general problem in the factory was one of high labour turnover. Too many young girls floated from job to job making a nuisance of themselves and showing no responsibility towards their work. He thought that for most people the necessity to work for the bare essentials was gone and that they therefore regarded the work which they still had to do as an interruption of their recreation, rather than an important activity on its own.

Other troubles which they had among the girls were disputes connected with bonus payments. Those involved were usually the more intelligent girls ; they certainly weren't the girls with the poor homes and neglectful parents. This latter type was too busy with their own problems to worry about factory problems.

The firm had a policy of no works committees and it is also the firm's policy not to provide Welfare facilities at the Govan factory. They used to have a canteen and ' some welfare ' but the girls only took advantage of it and now they had stopped providing anything more than the minimum statutory requirements. The Port Glasgow factory, on the other hand, had thriving football and swimming clubs.

5. Probation Officer

The normal case load for Govan was about 60, and among this number are three groups of problem cases. (These problem cases are not the same as those shown in the official reports as ' unsuccessful.'

For example, some cases finish probation without having made any change in their attitude but without having been caught in any unlawful act. The official record would show them as successes. Others, although showing improvement, happen to have committed too many petty offences in their early days on probation to be allowed to continue. Others were committed to approved schools early in their probation career because, after the probation order had been made, information had come to light to show that they ought not to have been put on probation in the first place, for example because of unsatisfactory homes. These cases would also be shown officially as unsuccessful probationers though they might in fact be benefiting from approved school or other treatment.)

The unsatisfactory and problem cases, in the opinion of the probation officer, are:

1. The hard-bitten cynical types. There were four of these in the present case-load, all were older than average and had some previous record.

One of them has a wife who is 'mental.' He keeps out of the house as much as possible; occasionally goes on a drinking bout and gets into trouble. He is always on his own, has never accepted the spirit of probation—has recently disappeared.

The other three have this in common—they are older than the average probationer (20-30), are unco-operative and aggressive. One, a 'lapsed Catholic', is a partner in a mixed marriage and is accepted neither by his own family nor by his in-laws. This group tend to neglect their children. One is actually in trouble at present for child neglect. As far as can be ascertained by searching the records none of them have ever appealed for help to relief agencies, e.g. to the Society of Social Service. The Probation Officer does not think that they would.

2. Young children whose parents won't help or co-operate. These children (usually boys) have to be given treatment in institutions. The commonest feature of these cases is that the father does not play his proper role at home. He is usually uninterested in the home—often from the early days of marriage—regards what he pays to his wife as his 'lodging money.' Surprisingly, parents of children in this group do not even know which school their children attend.

3. A large number of boys who get into trouble accidentally because in some parts, e.g. Nethan St., they can't do anything without causing damage. It is not obvious to them, or to their parents, that they are criminals and therefore they can only be appealed to 'to watch their step' and keep clear of the law. As might be expected in such circumstances they regard the police as their natural enemies.

4. Very few psychologically maladjusted cases—usually sent for help to clinic. These often committed the most senseless crimes, or behaved in such a way that they were bound to be caught, sometimes through stupidity and sometimes by acting as if they wanted to be caught.

As regards the first two groups, the hard-bitten ones and the children of unco-operative parents, the probation officer has no solution, and could not even suggest one. In the case of the third group, the theoretical answer is quite clear even if no action can be taken, i.e., briefly, to allow them facilities to play without damaging property. The fourth group represented problems to the probation service but could often be straightened out by psychiatrists.

6. Psychiatric Social Worker and Child Psychologist

Both felt that they could deal, more or less, with problems which arose through difficult personal relationships. The problems which they couldn't cope with were mainly in two categories—those involving persons of low intelligence and what they both referred to as 'social problems' by which they apparently meant disorganised families showing a multiplicity of difficulties. Such families were not even aware of their own problems and needed a basic training which these workers were not able to give. The first category of cases they just rejected after doing what they could to place the child or patient in the right school or job. The second category they referred to other agencies or occasionally did the necessary case-work themselves. Blackburn St., Maclean St., and Nethan St. were areas in Govan producing the 'social cases.' The 'psychological' cases, i.e., the ones which they felt more competent to deal with, were mainly in middle class areas or in the early years in new housing estates. To be admitted as a 'psychological' problem the patient had at least to be making the attempt to be 'respectable.'

7. Society of Social Service

The case histories of about 300 families applying for assistance to the Govan office of the Society were examined. The results of this examination have been reported elsewhere and there is no need here to do more than repeat the main conclusions which are relevant to the present discussion. The Govan office annually has 300-400 applicants for assistance of one kind or another. Usually the application is for monetary help to meet an emergency of some kind, and in about half the cases the help and advice which the Society can give

seems adequate in that the applicant doesn't come back. Of the others, some return once or twice with the same kind of difficulty and about 60 are ' problems ' who return time after time. A few of these cases concern members of the third or even fouth generation of families who have been applying for help to voluntary agencies at least since the beginning of the century. By far the most outstanding feature which these families have in common is that of the chronic illness of one or other of the parents. Many of the other difficulties seem to be traceable to this illness, but whether the illness itself is the result of family disorganisation or some more fundamental constitutional defect is, of course, not known.

Of more interest here are the features which these families did not show. For instance, out of the 300 cases examined, there were only two instances where it was known that a child of the family had been on probation or had been convicted. There were only two instances of husbands deserting their families and there was only one case involving a drunkard—in an area where heavy drinking is common. The social workers investigating the cases rarely expressed the view that these families were dishonest. On the whole, the case histories gave the impression that the families making up the case load of the Society were a rather ineffective lot who tried hard but couldn't make the grade, or that they just had bad luck, i.e., they had had the kind of accidental misfortune under which most working families might have been expected to fail.

8. National Assistance Board

About two-thirds of the cases dealt with by the National Assistance Board are cases needing supplementary grants to pensions, usually Old Age Pensions. Such cases cannot be reckoned as problems in the present context. It is true that the applicants are in need and apply to the N.A.B. for help. Nevertheless, the fact that so many old people appear as long-term cases on N.A.B. records can be looked upon as an accident of administration: they receive their pension at one place rather than another. Another 5 per cent. of the total number of applications to the Board relate to accidental misfortunes which are met by single payments, and similarly ought not to be counted as problems in the sense which is intended here. To make up the remainder, about 25 per cent. are supplementation of other benefits like sickness and unemployment insurance, and 5 per cent. represent cases of desertions, mothers supporting illegitimate children, etc. These latter two groups of 25 per cent. and 5 per cent. are in many

respects comparable with the normal case-load of the Society of Social Service. Most of the 5 per cent. (called by the Assistance Board 'liable relative cases') can be classed as 'problems' and within the bigger class of 25 per cent. are perhaps another 5 per cent. whom the National Assistance Board officials refer to as 'work-shy,' 'defective,' etc. Some cannot hold jobs, others are difficult to place either because, for example, they have a widely known prison record or because there are not sufficient 'light-work' jobs available within the employment structure of the area. These two small groups are the problem cases of public assistance administration.

9. Hospital Almoners A and B

The proportion of total patients in a hospital who are referred to the almoners' department depends largely on the attitude of the medical staff to the almoners' work—particularly the attitude of the ward sister. Most of the almoners' work is with the poorer members of the community.

The most regular problem was said to be with old people who were chronically ill; relatives did not want to take them back home and care for them. Another group presenting problems was made up of men, often suffering from duodenal ulcers, who needed light congenial jobs. Very few were in fact placed successfully.

One almoner said that there were a few families who were problems on her list. In these families one member after another needs help. She thought that Catholic families were worse in this respect and that she 'never felt that they were being really straight' with her or that they could be trusted entirely. The second almoner mentioned a 'vast' number of single men living only with an elderly father who was chronically ill. The hospital first got hold of these cases through the father, then found the son usually mentally defective or near it, often epileptic, unable to hold a job, etc. On the whole, most people in Govan were very independent but the area also produced more than its quota of medical problem cases: mental defectives and people of poor constitution—people who refused proper treatment through ignorance, prejudice, eccentricity or fear. These types got left behind in the older parts of Govan as other families were rehoused on the new estates on the outskirts of Glasgow.

10. Official of Society for Prevention of Cruelty to Children

The cases which were most difficult to cope with were often large families, which were not necessarily the poor families. The Society was often involved several times with the same family in action to

protect one child after the other. Squalor and TV sets were seen side by side in the same house. New Corporation houses were often as bad as the slums. Where a family 'on the books' of the Society moved out to a new house their behaviour nearly always deteriorated (this was confirmed by interview with individual inspectors). Poverty had more or less disappeared in Govan and one didn't see bare-footed children any more but the general standard expected of parents with regard to looking after their children had risen and there were still people who didn't reach the minimum standard expected. Parents had less responsibility now that aid of various kinds was so freely available; some fathers were better off not working, etc., etc.

There was little use in trying to do anything for such people as regards investigating their mental health. They were 'the scum of the earth', 'should be put into concentration camps', etc.

11. Medical Practitioners B, C, D, E

All these practitioners, interviewed separately, gave roughly the same description of their problem patients. They all mentioned three groups which are not particularly significant here.

1. Patients with incurable diseases, like cancer.
2. Old people without adequate support and help at home.
3. Wives and children of drunkard or otherwise spendthrift husbands who were really suffering from malnutrition and temporary desertion. The drunkards themselves rarely consulted the doctors.

These three groups and their problems need not, of course, be entirely unconnected with the discussion which follows; they all represent social problems. But the medical practitioner presented with such problems at least felt that he understood what was wanted even if he could not do anything himself.

Apart from the three classes mentioned above, all agreed that by far the biggest group of problems were presented by patients, and there were some in every surgery, who had nothing organically wrong with them but who just were 'not well'. Each doctor had his own term for these patients: 'defective personalities', 'people with a weakness', 'the grey scrubbers' (a quotation from Mervyn Peake's novel *Titus Groan*), 'ineffective types', etc. All agreed that the size of this group was roughly 30 per cent. of their total load of patients. All had sent some such patients to the Southern General Psychiatric Clinic and all agreed that the number of patients benefiting was small. The report which the doctor received from the hospital usually read like a copy of the letter which he himself sent with

the patient. Each doctor had in some degree decided to do his own psychiatry but none was satisfied that he was coping successfully.

All agreed on the following points about this group of patients:

(a) that they were increasing in Govan,

(b) that they were not so much in evidence among the families which had moved out to new housing estates,

(c) that this was partly the result of selection of the more self-reliant types and partly a real improvement in health,

(d) that the classification of a patient in the group could be made at an early age, i.e. before marriage. None ever had to be put into this category after 30 years old. The same symptoms did not necessarily show in the rest of the patient's family,

(e) that the symptoms presented by the group varied from time to time but were likely to be the same throughout the group at any one time. Sometimes it was headaches and insomnia, sometimes 'tight bands across their head', and 'tight bands and a pain around their chest',

(f) that the main characteristic of this group of patients apart from the medical aspect was that they were 'scroungers' or 'leaners',

(g) some streets or blocks of buildings were more likely than others to produce patients in this category—Linthouse Buildings, Burndyke, Hoey, Maclean and Blackburn Streets were mentioned. In these places, whole families rather than individuals were involved.

In addition to these points of general agreement, each doctor highlighted some aspect of the situation. Judging from a general assessment of the interviews, there would probably be some measure of agreement, even on these points, but it has not been possible to check by a second round of interviews.

(a) Aimlessness. These patients rarely had anything which they wanted particularly. Two doctors remarked on the disappearance of such symptoms during the war.

(b) Young women. A large proportion of young women when they were patients at all fell into this group. Usually there was nothing very much wrong with them: the usual diagnosis was 'nervous debility'. If they did, for example, have a sore throat, it took a month rather than a week to get better. They often had menstrual disorders. The point which was stressed here was that only girls working locally in factories (particularly the factory of Personnel Manager B already described) behaved in this way. Shop girls and those travelling out of the area seemed to avoid frustration which (the doctor thinks) brings on this nothing-in-particular kind of illness. The interpretation given was

that this young women group represented the most self-conscious group in the community. They were also subject to more social pressures than other groups, and from many quarters. They had been taught by advertisements, magazines and the general processes of education to expect higher standards than their parents. These standards included not only material things, e.g. a house of their own, etc., but also standards of behaviour from their boy friends and, later, their husbands. Those left behind in Govan were the least likely to achieve their standards. The boy friends went away to the army, they themselves had already failed to get any job better than a local factory job involving fairly heavy and dirty work (on girl's standards), when most girls, and not only heroines of magazine stories, worked in offices or shops where they could dress smartly and develop a personality which others would admire. Even after marriage they were not treated as well as they expected. Being married, they would have to wait ten years for a house. At this point they started to raise a family, resigned themselves to looking after the children and the loss of what little attention they had previously received from their husband. When their children grew up they reappeared as

(c) Middle-aged women, slovenly in themselves and their houses. By this time they generally developed some functional disorder and gradually withdrew from their job of running the house, i.e., they didn't get up in the morning or prepare regular meals, but tended to whine and ask for sympathy.

There were very few men patients corresponding to these three groups of women. Each doctor had a few young men patients who were problems but on the whole the difficulty was that they went back to work on their own after an absence, usually earlier than the doctor advised; restlessness rather than aimlessness seemed to be the description which fitted them.

Conclusions

The material which has been presented here was drawn from a series of lengthy and widely-ranging interviews and it was not to be expected that it would fall neatly into place in such a way as to point clearly to firm conclusions.

Nevertheless, reflection on the material does produce a hypothesis which is worth pursuing. In spite of the variety of terms used in the various descriptions, there seems to be a fair consensus of opinion among the different practitioners interviewed about the kind of be-

haviour and the kind of person responsible for most of their problems. Further, the problem cases can be arranged into two classes. On the one side are the 'confirmed petty criminals' (mentioned by the police), 'the hard-bitten, cynical types' and the don't care parents (mentioned by the Probation Officer), the neglectful parents being prosecuted for child cruelty. On the other side are all the groups of people who are described in various ways as not being able to cope with life. The two classes might be described very roughly as 'predominantly delinquent' and 'predominantly ineffective'. According to the descriptions which the various administrators gave, the two classes only rarely overlap. For example, the drunkard, who in Govan is probably a cheerful if uncouth heavy drinker rather than a guilty alcoholic, rarely applies to the relief agencies for help, or asks for sick lines from the doctor, or hangs on to the almoner's services after he has been in hospital. Nor, as far as we know, does the family which has its boys on probation. On the other hand, many families where one parent is ill, or has had an accident, do all these things.

To put the same points in a different way, the families who apply to relief agencies for help to keep out of trouble with the police. It does not seem to be true, as often asserted, that the same families are found on all the registers. They are found on one set of registers or the other but not on both (there are exceptions, of course, and both classes appear in the description of problems of the National Assistance Board). The set of registers corresponding to the predominantly delinquent class are concerned with police, probation, cruelty to children and non-attendance of children at school. The set corresponding to the ineffective types are concerned with relief agencies, hospital almoners, factory personnel management and problem patients of general medical practitioners.

There is some support for this hypothesis of two distinct types of problem behaviour in evidence collected outside, and before, this enquiry. For instance, particular streets—Nethan St., Neptune St., Kintra St.—appear regularly in police and probation records but not in the records of the Society of Social Service. Burndyke St., Hoey St., Blackburn St., and Maclean St., on the other hand, appear regularly in S.O.S.S. records, were mentioned as problem areas by general practitioners, and are addresses which are readily recognised by Hospital Almoners, and by the Department of Psychological Medicine at the Southern General Hospital as contributing a number of their own particular kind of cases. This suggests not only that there are two classes of cases but that they may well be found to concentrate in particular areas.

Accepting for the moment these two hypotheses, that there are two classes of cases each with its own features approximately as described and that certain areas have predominantly one kind of case or another, what further considerations are suggested?

The most obvious consideration is that of the function of the agencies which correspond with one class of case or the other. The agencies corresponding with the predominantly delinquent class (the police, probation, etc.) are mainly punitive agencies and those corresponding to the ineffective class are mainly relief organisations. If in our society we have two kinds of agencies and two quite different attitudes to deal with people whose behaviour is not acceptable, then we should expect to find two corresponding types of case. If, let us suppose, we had a third type of agency which sought neither to punish nor to give relief but, for instance, to isolate undesirables, then presumably we should find people who wanted to be isolated 'applying to' (or being picked up by) such agencies. The function of the agency, therefore, describes the type of case which can be picked up. It probably also decides the kind of description which any worker in the agency will give of his cases. It might reasonably be expected to select in some degree the right workers and officials as well as the right 'customers.' To over-simplify the interpretation for the sake of emphasis, the police force is for dealing with criminals and therefore any person with whom it has to deal is a criminal and knows it; similarly it should attract rather tough-minded individuals as officers because only such people can effectively deal with criminals. Similarly with the relief organisations; designed to help the deserving poor, they attract those who can without difficulty fall into that role as applicants, and they attract, too, the corresponding type of individual on to their staff. The heavy drinking cheerful delinquent would be just as much out of place as an applicant to a relief organisation as would the 'good-old-fashioned-kick-in-the-behind' kind of doctor or policeman as a practitioner. The distinction between the two classes of applicants is something like the distinction between 'homicides' and 'suicides,' the 'practitioners' on both sides being a paler reflection of the 'customers.'

The division of our problem cases into two classes, however, is not simply a trick of the method of analysis. There can be no suggestion, for example, that if the relief agencies didn't exist, there would be no ineffective types. On the other hand, it is arguable that in the absence of such agencies, some of the ineffective types would become aggressive and delinquent, or perhaps present no problem behaviour after all, while others would tend to lean on their friends, neighbours and relatives. There is bound to be a limit to the proportion of ineffectives

which a community can support within itself and still survive and without outside help it may be that many of the present applicants would be deprived of support and forced to try and face their responsibilities again. Once their ineffectiveness becomes institutionalised, however, there is no limit to the proportion of a small population which can be supported by agencies drawing their funds from outside, and small areas like those mentioned (Maclean Street or Linthouse Buildings for example) could become 100 per cent. ineffectives. The small area becomes in effect a community with a subculture where ineffectiveness is one of the accepted norms. The same kind of thing has been said about some Highland communities living largely on relief and subsidies of one kind or another from the rest of the country.

There is another point. Where a community is fairly well self-contained, the standards which people are expected to maintain without support are apt to be modest ones. Where, however, higher standards are imposed from outside and more or less accepted by the community, failures are more likely. If, in these circumstances, help is given by an agency which represents the outside standards, the acceptance of help is the admission of (a fairly substantial) failure. It has been remarked over and over again by social workers that the applicants for relief—the ineffective types—conform to normal standards where they can, i.e. they do not get drunk or steal and they 'know what is right' even if they cannot manage to cope with their own problems. It may be this very conformity, and the acceptance of goals which circumstances do not allow them to reach, which produces the sense of failure. Anything which sets the goals too high or handicaps the aspirants will increase the number of cases in an area. But so, too, will any action which treats the symptoms rather than the cause, whether it be the distribution of relief in sums just large enough to convince people that they cannot manage without it or the issue of prescriptions for sedatives to people who are disappointed with their own performance.

Against these general considerations, there are other people in Govan (Nethan St. is a good example) whose own standards (as well as performance) are widely different from those generally accepted. But they themselves do not appear to accept outside standards and (maybe because they are Catholics or Irish or have lived in a Catholic-Irish street for a long time, as is in fact the case), they are content to live by their own standards. They don't apparently expect much help from outside to maintain standards which they do not recognise. They expect to be picked on by the police and other representatives of the machinery of authority. As they grow up and after they have

been caught once or twice they keep out of trouble, not because they have experienced a change of heart, but because they have found out that ' it isn't worth it.'

This is the second kind of problem behaviour. As before, it arises also because there is a difference of performance measured against normal standards but this time it takes the form of delinquent or aggressive behaviour because there is a difference of goals as well as performance.

The differences between the two kinds of behaviour have been described piecemeal throughout the paper and there is no point in trying to simplify further. There is one point, however, which is worth making and which brings the discussion back to problem *families* rather than just problem behaviour of individuals. Whole families appear in both classes of problem cases but whereas it is usual to find the predominantly delinquent class of case in problem families and in particular streets, the ineffective type of case is more often concerned with one individual in a family, unless it is found in particular well-known streets where ' ineffectiveness ' is accepted. In such streets or districts there are indeed problem families. One class of behaviour is eventually as much a phenomenon of a subculture as the other.

Put in its fullest form, the hypothesis would be this. In a small community the sum-total of all the kinds of problem behaviour which have been described can be large or small. It is only another way of expressing the difference between the standards of attainment of the small community and those of the wider community. (The small community might be a street, a religious group, or have some other kind of boundary.) The form which this behaviour takes will depend upon the degree to which the population of the small community subscribes to the goals of the wider community. Where the wider standards are accepted but not achieved, the behaviour will be of the ineffective type ; where they are rejected, the behaviour will be aggressive and delinquent. The reactions of the wider community through its agencies can underline the differences between the standards of the smaller and the wider community and make either kind of reaction the accepted pattern. But because the wider community does in fact set up agencies of both types, appropriately staffed and with the appropriate philosophy, it might be useful for sociologists to consider whether the homicide-suicide dichotomy would

not help in understanding some aspects of behaviour. This is not a wild generalisation seeking to show that the human race can be divided into two kinds of people each with its own distinctive inborn and unalterable qualities. It is simply a suggestion for a categorisation which might be a useful device in analysis.

T. BRENNAN

University of Glasgow

THE GROWTH OF THE BRITISH STEEL INDUSTRY IN THE LATE NINETEENTH CENTURY

ALTHOUGH the British steel industry has received some attention from historians,[1] the full story of its growth in the late nineteenth century remains to be written. A recent article on the Scottish steel industry[2] has gone a long way towards correcting the impression that the rate of progress throughout the whole industry was slow in the 1880s and 1890s. However, it may in turn give rise to a belief that this divergence from the conventional pattern of inflexibility within the steel industry was primarily a regional one. In fact, from the mid-1880s there occurred in the north-east of England a development of steelmaking no less rapid than that in Scotland. In both these cases the changes were associated with the effective establishment of the British open-hearth steel industry at this time as a large-scale producer of industrial products. It is this development which explains the apparent conflict between previous writers on the subject for the contrast between technical progress in the Bessemer section of the industry, on which there has been an undue concentration in the past, as compared with the open-hearth section, is one of the features of the period of about ten years after the middle of the 1880s.

The rise of the open-hearth steel industry in that period is reflected in the fact that although British exports of steel and steel goods rose only slightly, there was a simultaneous substantial increase in total output of British steel. The significance of this difference between output and exports lies in the fact that the main product of the Bessemer section of the steel industry, rails, found the larger part of its market outside Britain. Open-hearth steel, on the other hand, was most suited to the production of ship-plates for which the main demand came from the British shipbuilding industry. In the boom period 1888-90, home consumption of finished iron and steel as estimated by the British Iron Trade Association rose by more than one million tons, or about 40 per cent., and by the mid-nineties there had been a further advance of over half a million tons. During the same years, exports by comparison made a very poor showing. They

[1] Notably D. L. Burn, *The Economic History of Steelmaking* 1867-1939 (Cambridge University Press, 1940).

[2] I. F. Gibson, 'The Establishment of the Scottish Steel Industry,' *Scottish Journal of Political Economy*, Vol. V (1958), pp. 22-39.

fell slightly in 1888-90 and in the recovery from the subsequent depression, the increase in exports was less than half that in estimated home consumption. Table I indicates that, except in the years 1886-87, exports lagged behind home consumption in periods of general upswing and fell much more in depression.

TABLE I

VOLUME OF SALES OF FINISHED IRON AND STEEL, 1885-96

(Tons 000s)

	Exports	Home Consumption
1885	2169·8	3626·2
1886	2343·9	3342·2
1887	3016·6	3170·2
1888	2930·3	4133·2
1889	2995·8	4196·4
1890	2856·1	4432·1
1891	2400·0	4088·1
1892	1972·2	4201·6
1893	2016·3	3976·6
1894	1819·0	4580·3
1895	1968·9	4829·9
1896	2490·2	5100·0

Sources: Col. 1—Board of Trade Returns.
Col. 2—Estimates of the British Iron Trade Association.

Informed contemporary observers, who had become accustomed to looking to overseas markets for a solution to all the steel industry's problems, were taken aback by this novel situation in the late 1880s.

> 'The present revival is quite exceptional in its character and has proceeded from causes that have been less conspicuous than on former occasions when the improvement was the result of an exceptionally large export demand. . . . On every former occasion the principal factor in the revival was the demand from the United States.'[3]

What perhaps was not foreseen was that the increased use of British steel at home compared with its sale overseas was to become the pattern for the years following the boom of the late 'eighties. The loss of the United States market for rails[4] was not easily replaced. But it coincided with an increase in the demand for steel at home for which the British shipbuilding industry was largely responsible.

[3] *Iron and Coal Trades Review*, 15 November 1889. (Hereafter referred to as *I.C.T.R.*)

[4] Resulting from both the increased production of rails in the United States and the decreased American demand after the mid-'eighties.

Since the predominant use of open-hearth steel was for ship plates and angles, the increased reliance on the home market was associated with the rise of the open-hearth method of making steel to a position of supremacy over the Bessemer method. By 1894 more open-hearth steel was being produced per annum than Bessemer (see Table II).

TABLE II

VOLUME OF OUTPUT OF STEEL, 1890-96

(Tons 000s)

	Bessemer	Open-hearth
1890	2014·8	1564·2
1891	1642·0	1514·5
1892	1500·8	1418·8
1893	1493·5	1456·3
1894	1535·4	1575·3
1895	1535·2	1724·7
1896	1815·8	2317·6

Source: Returns of the British Iron Trade Association.

Although steelmaking by the open-hearth process had a firm footing before the middle of the 1880s, it was in the years which followed that the greater part of the development which established its dominance over the Bessemer process, occurred. Perhaps the most striking manifestation of this was the proportionate increase in ships built with steel plates in the middle of the 1880s. The displacement of iron plates by steel was gradual until 1885 when a large drop in the tonnage built with iron plates was accompanied by a rise in that built with steel plates and the proportion of steel-plated tonnage built rose from

TABLE III

TONNAGE OF STEEL AND IRON SHIPS CONSTRUCTED, 1880-87

	Tonnage of steel ships built	Tonnage of iron ships built
1880	35,373	459,994
1881	42,407	666,724
1882	125,841	851,075
1883	166,428	933,774
1884	132,457	661,201
1885	165,437	290,429
1886	267,000	214,233
1887	465,792	111,535

Source: Returns of the British Iron Trade Association.

17 per cent. to 30 per cent. In the following year steel plates had become the more important and in 1887 were responsible for no less than 80 per cent. of the metal ships built (see Table III).

Underlying this ascendancy of steel over iron in new ships was a major development from which most of the growth of the steel industry at this time originated, namely, the introduction of the open-hearth process on a large scale into the Cleveland district. In 1885 there had been only 13 Siemens furnaces in the north-east of England ; by 1888 there were nearly five times that number.

The explanation of this rapid change seems to lie almost entirely in a switch from the manufacture of finished iron to steel by a number of established firms in England's leading ironmaking centre. The magnitude of the increase renders it very unlikely that it was largely the result of an extension of the plant of firms already engaged in steel production and it does not seem possible to discover evidence of new companies being formed for the purpose. There is, however, a good deal of support in the sources of the period for the thesis that there was a reorganisation of plant by erstwhile ironmakers. Referring to the years 1886 and 1887, the *Iron and Coal Trades Review* stated in May 1895 that ' many of the leading firms laid down plant for the production of steel plates.' This statement can be documented by citing the examples of the Parkgate Iron Company, the Consett Iron Company and Bolckow, Vaughan and Company. In chronological order the latter two take precedence. In 1886 Consett raised £240,000 additional capital, a large part of which the directors stated it as their intention to use for the extension of the steelmaking plant then in course of construction. £10,000 was placed to reserve in the Company's balance sheet in 1886 to meet expenditure on these works and a further £20,000 the following year. Bolckow, Vaughan and Company was similarly expending a considerable sum at this time on the erection of its steelworks at Eston. At the beginning of 1888 the directors of Parkgate announced their intention to concentrate on the manufacture of steel by the open-hearth process and furnaces and other plant were laid down in that year. A fourth establishment worthy of mention in this connection is the Atlas Steelworks of John Brown and Company, Ltd., which was one of the heaviest investors in steel in the late nineteenth century. Its annual report for the year ended 31st March 1887 referred to heavy capital expenditure financed by new capital.[5]

The production of open-hearth steel, then, had become firmly established in the north-east of England by 1888. In the years that followed,

[5] For these examples see *I.C.T.R.*, 21 May 1886, 26 August 1887, 11 May 1887, 18 May 1888, and 17 June 1887.

a steady consolidation took place culminating in the region's displacement of Scotland as the leading centre of production in the mid-'nineties. Only two new furnaces were added to the list in the North-East in 1889 but the impression thus given of a sharp drop in investment is probably illusory because many of the large projects commenced previously were continued and some were revised in an upward direction. The normal practice in laying down steel plant was to give furnaces priority in construction. Mills and other accessories were usually added afterwards either in conformity with the original plan or because those in existence were found to have been rendered inadequate by the advance in furnace practice. So in the North-East the massive addition to the number of furnaces in 1886-88 created a situation in which the capacity of the furnaces was not matched by those of the mills. In the development of mill capacity which went on at the end of the 'eighties Consett again played a leading role. A large new angle mill was commenced in 1889 and £67,520 added to the reserve fund to meet the expenditure on it. At Rotherham the Parkgate Company, which had raised £75,000 to finance its new steelworks in 1888, found its original plan too modest and called up additional capital for further extension in the following year. An indication of the continued investment in steel in the North-East is that at Rotherham alone 'something like £200,000 capital' was added in 1889, according to the *Iron and Coal Trades Review*, although some of this investment was in the Bessemer section of the industry.[6]

But while it thus seems clear that there was little check to investment in the North-East at the end of the 'eighties, the centre of interest nevertheless shifted at that time to Scotland. There was no net addition to the list of Siemens furnaces north of the Border in the three years 1885-87 but in the following three years the number increased from 67 to 93. As in Cleveland, this seems to have resulted from a combination of extension of existing works and construction of new ones on a large scale.

> 'Not only are existing steel works putting down additional plant but new works are being erected at Renfrew, Dumbarton and Motherwell.'[7]

Prominent in the development at this time was the Steel Company of Scotland. In 1889 it increased its productive capacity at the Blochairn works by the addition of four new furnaces. The same process of extension of mill capacity following the construction of furnaces as

[6] For these examples see *I.C.T.R.*, 9 August 1889, 22 November 1889, and 3 January 1890.
[7] *Economist*, 28 December 1889.

occurred in Cleveland can be seen to have been taking place further north. After the Steel Company of Scotland's new furnaces had been laid down, it was found necessary to replace the cogging mill with a much larger and stronger one.[8]

In the years after 1890 the statistics of open-hearth furnaces have to be interpreted with some caution. Taken at their face value they suggest a considerably lower level of investment in the mild-steel industry in the first half of the 1890s than in the preceding six years when the addition to the total number of furnaces was more than 100 compared with little more than 50 in the later period. However, the latter smaller increase in numbers would seem to have been more impressive in terms of physical capacity partly because of a defect in the statistics themselves and partly because of the increasing size of furnaces[9] which in turn induced extensions to mill capacity. Indications are certainly not wanting that heavy expenditure was being incurred in the 1890s. In 1890 the firm of John Brown and Company raised £250,000 additional capital partly for the further development of their steel works. In 1893 its annual report indicates that considerable extensions to plant were being made and in the following year it was stated that the expenditure necessary to complete the alterations to provide for the production of hardened steel for armour plate would be £100,000. The Consett Company in 1890 raised £300,000 additional capital part of which was to be used for the erection of new angle mills. A further extensive addition was commenced in 1890 to the plant of the Parkgate Company. The expenditure on the steelworks of the Calderbank Steel and Coal Company, a new firm, exceeded the estimates and in 1892 an additional £75,000 was borrowed. The completion of new furnaces by Dorman, Long in the same year resulted in a 50 per cent. addition to the productive power of its steelworks. The Glasgow Steel Company opened its new works at the end of 1894 after an expenditure of £100,000 at about the same time as those of the Glengarnock Iron and Steel Company were completed. It was estimated by the *Iron and Coal Trades Review* that additions made during 1894 or in progress would add 200,000 tons a year to the capacity of production. In 1896 the Glasgow Steel and Iron Company was reported as having erected more furnaces at Wishaw and the works of the Calderbank Company were about to be

[8] *I.C.T.R.*, 12 September 1890.
[9] In 1890 247 furnaces produced 1,564,200 tons of steel; in 1896 287 furnaces produced 2,317,600 tons.

restarted after reconstruction. 'Considerable changes' by the Summerlee Company were also reported.[10]

To pass from the particular examples just given to the general experience of the open-hearth steel industry with regard to investment is not a step that can be taken with confidence. It would, however, appear likely that it conformed to a pattern of a strong boom in the late 'eighties followed by a shallow slump and fairly prompt recovery. The explanation of these movements must largely run in terms of the demand from the shipbuilding industry for steel plates and angles for these were easily the most important group of open-hearth steel products at this time. The superior quality of mild steel over iron as a shipbuilding material had been recognised for some time before the latter was displaced and it was the large reduction in the price of steel plates after 1884 which stimulated shipowners to take advantage of their superiority. The rapidly increasing demand thus occasioned for steel plates in the mid-'eighties created a situation on which open-hearth steelmaking capacity was insufficient for the needs of shipbuilding. The rush of shipbuilding orders in the second half of 1887 resulted in a price rise of 20 per cent. for steel plates. The shipbuilders' preference for the metal being no longer in doubt, the directors of large iron manufacturing firms were continually justifying heavy capital expenditure on steel plant on the ground that it was unavoidable if their present clientele were to be retained.[11] Meanwhile, it was said on good authority that

> 'the present steelmaking plant in existence is not equal to supply the requirements as rapidly as builders and owners would like.'[12]

A bulletin issued by H. E. Moss and Company spoke of

> 'the difficulty of getting quick delivery of steel plates, the demand being so great and the manufacture so limited,'

at the end of March 1888[13] and referred to heavy contracts having been placed in Belgium by some East Coast shipbuilders.

[10] For the cases quoted, see *I.C.T.R.*, 4 July 1890, 23 June 1893, 22 June 1894, 7 November 1890, 2 January 1891, 7 October 1892, 18 November 1892, 25 November 1892, and 24 July 1896. The concentration of attention here on Scottish development is a reflection of the fact that the growth of the industry in Cleveland is not as well documented as that in Scotland. In point of fact, statistics of Siemens furnaces show that from the beginning of the 1890s Scotland was being steadily overhauled by Cleveland so that over-all expansion must have been even more marked than the examples given here would suggest.

[11] Note particularly the Annual Report of the Parkgate Iron Company in 1888. 'The directors . . . have come to the conclusion that the time has come when . . . it is incumbent upon them to put down the necessary [steel] plant. The demand for mild steel has increased during the past two years to a very large extent and this company have had enquiries for the material, not only from regular customers but also from other consumers.' *I.C.T.R.*, 18 May 1888.

[12] *Economist*, 24 December 1887.

[13] *I.C.T.R.*, 30 March 1888.

Up to this time, the shortage of capacity seems to have been felt mainly in Cleveland. Indeed there are some signs of a feeling in Scotland, noticeably absent in Cleveland, in the middle of 1888 that mild steelmaking capacity was adequate to the requirements likely to be put on it. The observation of Messrs. Matheson and Grant in their half-yearly report on heavy industry that

> 'the increasing capacity of large modern steelworks in Great Britain . . . will neutralise any moderate increase in the demand that may take place,' [14]

should probably be taken as applicable to Scotland rather than the whole of Britain. Such complacent opinions were shattered by the rush of shipbuilding orders in the autumn of 1888 which set off another sharp rise in the price of shipbuilding materials. It was probably the transformation of the shipbuilding revival at this time into a boom that was primarily responsible for the spurt in investment in open-hearth steel plant at the end of the decade despite the fact that the year when capital expenditure was at its highest seems to have been 1890 and not 1889. Constructional projects that were being carried out were extended and new ones conceived. If these were slow to come to fruition there were good reasons why this should be so. Firstly, the very high level of employment in the engineering industry in 1889 resulted in much longer delivery dates and must have delayed the rate of construction. That this was true of at least one leading firm was attested by the directors of Palmer's Shipbuilding and Iron Company who complained in 1889 that their new steel angle mill had been retarded by late delivery of machinery. [15] The second reason for delay after the great stimulus to expansion had been felt in the second half of 1888 was the time taken to establish new companies to carry out new investment plans. The successful promotion of public companies was dependent on public acknowledgement of the prosperity they were likely to enjoy. The course of events in the second half of 1888 ensured an eventual demand for the shares of steel companies but it was probably not until existing companies divulged their profits in 1889 that the attraction of such stock became really evident.

Thus the gap created between desired and actual existing open-hearth steel capacity by the upsurge in the demand for steel products dating from the autumn of 1888 was not quickly bridged. Its importance was from the first reflected in a large increase in the demand for iron plates. The *Iron and Coal Trades Review* explained this in terms of a strong preference among many shipbuilders for the inferior

[14] *I.C.T.R.*, 20 July 1888.
[15] *I.C.T.R.*, 6 September 1889.

metal [16] but the events of the 1890's cast doubt on this as a sufficient explanation as do the reports of the more progressive iron-manufacturing firms at the time. The conclusion that the dominant motive for investment in the open-hearth steel industry until at least 1890 was the desire to bring productive capacity into line with demand, seems overwhelming.

From about the beginning of the new decade, however, the importance of competitive cost-reducing improvements in the technique of production, the area of competition being represented by the whole finished-iron and steel industry, appears to have grown in relation to that of the need for enlargement of capacity as a motive for the new investment which took place. The construction commenced in the years 1889 and 1890 made a large contribution to bringing capacity more nearly into line with boom requirements. As the demand for steel fell off in the early 1890's so did the number of furnaces in use. The importance of this fall is not adequately conveyed in absolute terms because the number of furnaces in existence rose *pari passu* with the fall in the number in use with the result that the proportion of capacity in use fell from 80 per cent. in 1890 to about 60 per cent. in 1893.

But although there was less cause to increase capacity after 1890, there was nevertheless a great deal to be gained from the application of more efficient methods involving the introduction of new plant. The fact that new furnaces were being constructed while the number being used fell may be indicative of a high rate of technical progress. It may indicate that older furnaces were being replaced by more efficient ones. However, it is in the statistics of malleable-iron and Bessemer steel plant that the main impact of cost reduction is reflected. During the 1890's open-hearth steel was continually replacing Bessemer over the range of products for which both types of steel were suitable. The displacement of finished iron was much more marked. By the middle of the decade, only bar iron was holding its own against the enroachments of steel.

A plausible explanation of the switch in emphasis to progressive cost-reducing investment after 1890 might run largely in terms of a change from a sellers' to a buyers' market for shipbuilding materials. The reduced demand from the shipyards transformed the competition between open-hearth steel and finished iron from an almost friendly rivalry to a life-and-death struggle. By 1895 the annual production of iron ship plates amounted to only about 26,000 tons compared

[16] 'There seems to be among some of the shipowners still a preference for the iron vessel because they hold that experience will prove that it will not suffer as much from corrosion and that the cost of repairs will be greater in the steel vessel.' *I.C.T.R.*, 7 September 1888.

with over 700,000 tons of steel plates. The reduction in costs involved in forcing this breach in the iron manufacturers' defences must have formed a basis for the steelmakers to poach on other preserves of their weaker competitors. Thus an increasing share of the market for blooms and billets was going to steel in the 1890's and the only major product where the ironmakers clearly held their own was bar iron.

The rapidity of technical progress in the open-hearth steel industry at this time requires some emphasis in that the achievement of the steelmakers has not been fully recognised in the past by historians who have been inclined to be pre-occupied with Britain's competitive position *vis-a-vis* Germany and the United States. As a result they have concentrated their attention almost exclusively on the Bessemer section of the industry which produced the bulk of British exports of steel. There is, for instance, little mention of the open-hearth process in D. L. Burn's treatment of the period. Contemporary commentators, too, were slow to appreciate the significance of the changes taking place. It was only when the open-hearth steel industry proved its ability to produce a larger output than the Bessemer industry in the mid-'nineties at a surprisingly low cost that a more perceptive journal like the *Iron and Coal Trades Review* began to draw attention to the rapid advance that had occurred. The new companies formed at the end of the 1880's, acting as innovators in the laying down of plant, made the running for the firms which had already constructed their plant. To take one example, this meant for Dorman, Long, a well-established firm, an addition by 1896 of four 40-ton furnaces to the one in existence in 1889 and the conversion of six 20-ton furnaces into a capacity of 30 tons each. [17]

The most important of the technical improvements which were being adopted so readily was the marked advance in the performance of the furnaces themselves, the three main lines of progress being increase in size, more rapid heating and longer effective life of furnaces. In the mid-'eighties it was exceptional for a furnace to exceed 10 tons; ten years later 40 and 50-ton furnaces were being used as a regular practice. [18] Rapid heating in the furnaces meant increased production and a considerable economy in fuel. Better methods of construction reduced the necessity for stoppage for repairs. According to the *Colliery Guardian* in 1895,

> ' seven years ago we were content with a continuous operation of from 250 to 300 charges. Today things are greatly different and thanks to the many improvements that have been gradually intro-

[17] *I.C.T.R.*, 18 December 1896.
[18] Ibid., 24 July 1896.

duced, it is now possible for a Martin furnace to be kept in operation for six or seven months or even a year.'[19]

But progress was not confined to furnaces.

'The mechanical appliances involved in the production of this metal [open-hearth steel] have probably increased—if not in number and variety, still, at any rate in cost and comprehensiveness—more during the last decade than in any other similar period since the institution of the open-hearth process,'[20]

was the verdict of the *Iron and Coal Trades Review* in 1896. The main types of appliances introduced were much larger cranes, and other equipment for handling the raw materials, forging presses, lathes and other heavy equipment for straightening and handling bars. In addition, mills increased greatly in size and better cooling-pit arrangements were adopted. The judgement of the *Economist* in the middle of the 1890's was that

'the most competent authorities are agreed in looking upon the equipment of an open-hearth steelworks as at least equal to anything of the kind in any part of the world.'[21]

A discussion of technological progress must include some reference to two minor sections of the open-hearth steel industry, namely, that using the basic process and that concerned with the production of armour plating. The former made little headway in the nineteenth century both absolutely and in comparison with other countries and so has tended to detract from the otherwise progressive behaviour of the makers of mild steel. In the mid-'nineties, when more than 2,000,000 tons of open-hearth steel were made annually by the acid process, the amount made by the basic process was less than 200,000 tons. There was certainly some tendency for existing ironworks to be converted for the production of basic open-hearth steel. The most important example was probably the reconstruction of the Earl of Dudley's Round Oak Works at the end of the 'eighties. The new company was soon in financial difficulties,[22] a plight which was not uncommon in this section of the industry. Technical knowledge of the process seems to have been rather limited on the part of those who used it.[23]

[19] *Colliery Guardian*, 14 June 1895.
[20] *I.C.T.R.*, 31 January 1896.
[21] *Economist*, 24 October 1896.
[22] In the year 1891-92 it made a loss of over £18,000. *I.C.T.R.*, 16 September 1892.
[23] Thus the Staffordshire Steel and Ingot Iron Company claimed in 1888 to have made important improvements in the method of production of basic Siemens steel. *I.C.T.R.*, 20 July 1888. Two letters published in the *I.C.T.R.*, 27 July 1888, one by Siemens himself, showed that the original Siemens furnace was just as economical as that constructed by the Company and there had been improvements made since.

The increasing interest of European Governments in the building of large navies meant not only additional orders for British shipbuilders but also for the small number of firms involved in the production of steel for use as armour plating. The continual fear of obsolescence with regard to the thickness and strength of plate provided a stimulus for the heavy investment undertaken by these firms, particularly by John Brown and Company. The most important innovation during the period was the Harvey-ised plate. Experiments made in 1894 in Britain proved that it was much superior to that in use at the time and it was accepted for use in the British Navy. This decision gave rise to a further spurt in the investment of those firms producing armour plate. [24]

There was no large-scale extension of productive capacity in the Bessemer section of the industry simultaneous with that which occurred in the open-hearth section. On the contrary, capacity was generally greatly in excess of requirements. Large Bessemer plants had been constructed in the past in expectation of a rising demand for Bessemer steel in the 'eighties and 'nineties. But the conditions of demand for the principal Bessemer product proved to be the opposite of those of its open-hearth counterpart. The heyday of railroad construction had gone before the mid-'eighties; oversea competitors were proving redoubtable opponents in those areas where new construction was taking place; the advantage to be gained from replacing iron rails with steel had already been exploited and the superior wearing quality of steel kept replacement orders low.

That is, whereas the mid-'eighties were seminal years for the open-hearth steel industry, they were climacteric for the Bessemer industry. In an article entitled ' Before Bessemer — And After ' in the *Iron and Coal Trades Review* in 1895, the latter industry was described as having passed through three phases up to that time. Of these the writer regarded the third, ' the stationary or regressive period,' as having commenced in 1884. The same journal some two years later pointed out that in the last ten years no Bessemer plant had been laid down. In addition, in 1895 a report on the condition of the iron and steel industry had included the following expression of opinion:

> ' As regards the Bessemer steel industry it is apparently in a semi-moribund condition. Year after year, it has not only ceased to make progress, but it has absolutely declined.' [25]

There is a good deal of evidence to support the accuracy of this diagnosis. The number of Bessemer converters, for instance, in

[24] *I.C.T.R.*, 31 January 1896.
[25] For these references see *I.C.T.R.*, 26 July 1895, 5 February 1897 and 19 April 1895.

Britain declined from 126 in 1886 to 101 ten years later. By 1895, not only was plant in operation being only partly used but six of the principal steel-rail works were closed entirely and in cases the period of closure had been long.

The concern being expressed in the middle of the 1890's was a delayed reaction to the signs of stagnation apparent in the previous decade. The poor prospects for the Bessemer steel industry in the second half of the 1880's had been obscured for many contemporary observers by the mild recovery in the demand for steel rails after 1886. Although new demands from South America and Australia for rails did no more than replace old ones from the United States, the fact that they were new gave grounds for hope. Also, the domestic railway companies, whose response to boom conditions at home was usually delayed, continued to provide a means of disposing of some of the railmakers' output even after the South American and Australian markets abruptly contracted at the end of the decade. The decline in these companies' requirements in the early 'nineties [26] removed the last prop on which such prosperity as the industry enjoyed was based. Excess capacity, a chronic malady, took on an acute form. The Bulletin of the British Iron Trade Association made mention of the fact that in 1894

> 'most of our great Bessemer steelworks . . . have been very irregularly employed . . . while some three or four of them have practically done nothing at all.'[27]

The position was worse in the following year. The number of converters in operation fell from 60 to about 44 or less than 50 per cent. of those in existence. A number of important works were entirely closed, including West Cumberland, Tredegar, Rhymney and finally in August 1895, the Barrow Steelworks. Those that remained had, according to the *Iron and Coal Trades Review*, 'been notoriously unsuccessful from the commercial point of view.' Many of them were only working half or three-quarters time. [28]

The striking difference thus suggested between the open-hearth and Bessemer sections of the steel industry dating from the middle of the 1880's needs more thorough explanation than it has received to date. D. L. Burn has examined in considerable detail why the British steel industry lost ground to its foreign competitors at this time. [29] But he does not appear to have made it sufficiently clear that in doing so he is

[26] According to A. K. Cairncross, *Home and Foreign Investment 1870-1913* (Cambridge University Press, 1953), p. 169, domestic railway construction reached a peak in 1891.
[27] *I.C.T.R.*, 28 December 1894.
[28] Ibid., 16 August 1895.
[29] Op. cit., pp. 73-307.

comparing the Bessemer steel industries of the countries concerned and not their open-hearth steel industries. An attempt has been made in this article to explain the failure to lay down new Bessemer plants after the first half of the 1880's in the light of the excess capacity in the industry. However, the question remains, and this is Burn's primary concern, why the Bessemer steelmakers did not turn to the introduction of cost-reducing technical improvements in reaction to growing competition as the open-hearth steelmakers did in the 1890's after their period of rapid expansion had passed. An important part of the answer to this must be that the extent to which funds were available to entrepreneurs in the two branches of steelmaking differed in marked fashion.

The Bessemer steelmakers had embarked on projects in the first half of the 'eighties which depleted their reserves at the time and did not justify themselves in the future. Their low profits discouraged outside capital in all probability and left little for effecting technical improvements. Firms which produced both Bessemer and open-hearth steel were inclined to concentrate their attention on the latter because it provided ample scope for the use of funds.

A further point which is a particular aspect of that made in the preceding paragraph is that the Bessemer steelmakers had committed themselves heavily to a high degree of concentration on the production of rails which generally constituted about one half of the annual output of Bessemer products. An outstanding feature of the industry in the late nineteenth century was the excess capacity of the rail mills which considerably restricted the freedom that entrepreneurs in the industry had to manoeuvre when the demand for rails was weak. This seems to have been overlooked by Burn who pays more attention in general to aggregate steel output than its dissection according to use. In addition to emphasising the depressing influence of excess rail capacity, it is necessary to reiterate that steelmakers were slow to see the danger of their policy of concentration on railmaking because the demand from new areas of settlement in the second half of the 1880's contributed to the belief that it was being proved correct. By the time these illusions were shattered in the 'nineties the Bessemer industry had little chance of retrieving its position. The *Iron and Coal Trades Review* supplied what might have been an epitaph for the Bessemer industry in 1895:

'The manufacture of steel rails has greatly declined and nothing has taken the place of that product to any adequate extent.'[30]

In sharp contrast, in the open-hearth steel industry the large profits which accrued as a result of the shipbuilding boom of the late 1880's

[30] 19 April 1895.

and the public funds attracted thereby were put to use in such a way that the industry became less reliant on shipbuilders as its main customers. The rapidity of technical progress resulting from this investment expenditure in the 1890's encouraged the use of higher quality steel for many products which had formerly used Bessemer. This diversification of output by the open-hearth steelmakers was symptomatic of the marked difference between the two sections of the British steel industry in the late nineteenth century.

W. A. SINCLAIR

University of Melbourne

THE ECONOMICS OF EDUCATION[1]

I. Introduction

In recent years the great growth in the importance of social expenditures in Britain has stimulated interest in the economic implications and consequences of these activities. The study is a difficult one, primarily because the criteria to which the economist is accustomed to refer in other contexts, when attempting to form judgments as to the wisdom or otherwise of utilising resources in a particular fashion, cannot easily be used in the examination of social services. There are two reasons for this. For a commodity bought and sold in the market place, the consumer can decide, by his willingness to purchase, how much shall be produced and hence what communal resources shall be used in the process of production. This provides a guide, though one that needs careful handling, to the efficiency with which productive factors are being employed. Most social services, however, are provided free or at prices that do not reflect the costs of providing them. Consequently, the demand for these services does not reflect their value to the community in any direct way, since those who consume are not themselves called upon to make the sacrifice (of using resources in other ways) that makes that consumption possible. Secondly, the gain from the provision of social services is often not confined to those who consume them, but is disseminated also among other members of the community; there are *social benefits* additional to the benefits obtained by the individual consumer of such services. An obvious example is the treatment and prevention of contagious disease. In the field of education, the gain for the community life from the promotion of general literacy also illustrates the point. This second proposition means that the value of such services to individuals, even if they were required to pay the market price for them, would not reflect their full value to the community. Consequently, to leave such services simply to provision by the market would result in too little of them being provided.

These arguments are well known. They have, however, encouraged economists to fall back upon discussion of social service expenditures in relation to what seem to be statistically 'objective' measures of other kinds. Thus, we can discover that education expenditure on

[1] A paper read to the British Association for the Advancement of Science at its meeting in Glasgow on August 28, 1958.

current and capital account absorbed 2·4 per cent. of the gross national product at factor cost in 1937-8 and 3·7 per cent. in 1954, and we can break down the component to show how the 'share' of education expenditure of particular sorts (e.g. on teachers' salaries) has changed over time. Further, we can attempt to make 'projections' of community output in the future, and in the light of these discuss the 'share' that public expenditure on education 'might' or 'should' take of our total available resources. This method has grave dangers, and it would be unfortunate if it came to be thought that it is the only approach possible, or that it could be used to prove more than it in fact can. Bluntly, statistics as to the 'share' of gross national product taken by education (or any other service) provide us with information, but with no particular gain in *understanding*. For policy purposes, the statement that education is taking x per cent. of the national income is little more useful than that old favourite with statisticians: the statement that more than half the children in the country are of less than average height.

To give meaning to such statistics, we need some criterion by which to decide what resources to use in the provision of the service under consideration, and this criterion cannot be derived from the statistics themselves, except by those who take as the basis of their social policy the axiom that, whatever share of community resources is going to social services, it is less than it should be. But for this group, statistics are unnecessary and logic unavailing.

The necessary criterion must derive from some kind of statement of social aims. In the example given a moment ago, the economist would judge the efficiency of operation of a market, in the first instance, by the extent to which it gets those goods produced that consumers want. That is, by the extent to which it gives expression to and reflects *consumers' freedom of choice*. Clearly, adoption of such a criterion involves a political judgment; it can have significance only for a society in which individual freedom in economic matters is considered an important goal. Not all societies would accept such an aim to the same degree, and none accept it entirely; most societies, e.g. find it necessary to control the sale and consumption of habit-forming drugs. But, at least for Western democratic societies, individual freedom is still an important social goal, and this applies to economic as well as to other activities. This is not, of course, to argue that the government has no role to fulfil in economic matters, or that government intervention and control must always be wrong, but rather that the onus is upon those who wish to control, remove or inhibit economic freedom to show good reason why they should be allowed to do so.

In my view, this statement of aim is as important and relevant to the study of social services as to the study of other forms of economic activity. I have already given reasons why the purely private provision of such services may lead to results which are unsatisfactory from the community's point of view. But that does not mean that the general principle just described has no significance in this field; on the contrary, there are strong arguments for continuing to use it to the greatest possible extent as a means of setting out the issues concerned in our policy decisions about such things as education. In the first place, I know of no other general principle that provides as clear a guide to the questions of importance for policy. In the second place, to examine our activities in the provision of social services against such a principle enables us to avoid an unsatisfactory concentration upon issues concerned with the details of present methods of social service provision (such as the use of charges for health service prescriptions or the precise methods of finance of education through local authorities). There is a tenable argument that the post-war trend towards increased state activity has carried with it a tendency to regard the present size and character of such activities as broadly unchangeable, and to concentrate attention upon *new* intervention, or marginal changes in the present arrangements. But it seems to me that the general conceptions should not be lost sight of, and I therefore propose to concentrate on them. This must mean that I can give less space to the discussion of such issues as recent changes in the grant-system for education. But it is unavoidable: in my view, discussion of the ways in which decisions about the use of economic resources for the provision of education should be taken in a democratic society comes prior to, and, I would submit, alone gives meaning to, consideration of such issues as present methods of finance.

II. Education and Economic Freedom

We postulate, then, a society which takes the freedom of the individual (or, rather, as we shall see, of the family) as a prime social aim. In the economic sphere, this requires that individuals will be free in general to pursue their ends through a system of free exchange, with the functions of the state limited to providing the necessary legal background for enforcement of contracts, etc., to the prevention of coercion, to other measures necessary to keep markets free, and so on. Also, and most important from our immediate point of view, state intervention is called for whenever, for any reason, there are obstacles to the operation of such a system of voluntary action or

anomalies about its result. Such problems do exist in the provision of education; I have already indicated their general nature.

Given this society, the question to be answered is: how should such a community decide upon the size and character of the economic resources to be devoted to education, and, particularly, what should be the role of the state in relation to this decision?

We might usefully put the question in another way: why does the state have any role at all, other than the general functions provided in respect of all economic activities, and roughly described above? Three broad groups of possible reasons for further intervention can be found:

(1) Education is 'consumed' by children, and those who dislike state restrictions on freedom in general would not object to it in their case; freedom implies responsibility, and we cannot expect children to behave responsibly. But children have parents, and there is no need for state action on this score if it is accepted as reasonable to treat the family as the relevant economic and social unit for our purposes. To those who dislike this notion, I offer two comments:

(a) To deny the ability of parents to take decisions about the education of their children has interesting and not very favourable implications about the consequences of the past 50 years of state education.

(b) The family, and parental authority, is already the accepted legal concept in many other, and not less important, contexts—e.g. in giving consent to the marriage of minors.

(2) True freedom of choice may not be possible, because for technical or other reasons the supply of a product may become concentrated in a very few hands. That is, there may be conditions of monopoly or imperfect competition. The existence of this kind of problem was undoubtedly significant in the early development of the British education system: difficulties of transportation restricted the education facilities that could be used by the children to what was available in the immediate neighbourhood of their homes; it was probably this kind of technical difficulty of 'extending the market' that accounted as much as any other reason for the decline in importance of the British system of 'subsidy' measures designed to foster the provision of education by private organisations, and the correlative growth in the direct provision of education by the state and its organs. There is good reason to argue that such technical difficulties have now become a great deal less important, as a consequence of the great improvements that have taken place in transport and communications, and it will be argued later that where they do now exist they could be more suitably taken care of by other means.

(3) Finally, there are the reasons for state intervention that have already been mentioned. If parents were left unaided to pay for the education of their children in the open market, they would be paying for something more than the direct benefit obtained by the children themselves. Society *as a group* benefits from the existence of some minimum standard of education among its citizens, in the understanding of common values and acceptance of community obligation. Insofar as education helps to provide this, it is the community rather than the parent that should bear the cost.

Clearly, it is this last point that provides the permanent and enduring case for state intervention in the provision of education, though the 'monopoly' argument may also have force for particular communities and at particular stages in their development. For the moment, therefore, it is upon this social benefit argument that I shall concentrate attention; it is the one most relevant to present British circumstances.

The community's interest, then, as distinct from that of the parents, is that each child should be provided with a general minimum standard of education. This carries certain implications for the role of the state in education provision. First, it provides no reason for assistance from the state to *all* types of education. Second, given the objective of freedom of choice postulated earlier, the arguments presented for state action in the field of education constitute no case for the *direct provision* of any type of education by the state, but do provide reason for *state assistance to parents* in providing that education—a very different matter.

In respect of the first of these questions, we can distinguish conceptually between general education and specialised vocational education. It is necessary to keep these two separate, since they raise different issues. I intend to concentrate attention upon the provision of general education, and will therefore limit myself here to an elucidation of the distinction and some summary comments upon the methods of providing vocational training. Vocational training, as distinct from general education, adds directly to the economic value of the student. Of course, much general education also adds to the economic value of those who acquire it, and vocational training can bring 'community' benefits of the kind that we associate with a 'liberal' education. Nevertheless, the distinction is a meaningful and an important one. The arguments that the state has any responsibility for the training of an engineer, for example, are nothing like so strong as those for the view that it has responsibilities in relation (e.g.) to the provision of general education for all up to the age of fifteen. The border-line between the two types would not be easy to draw in particular cases

in practice, but such 'boundary' difficulties arise in all systems (conceptually, the 11+ problem is of the same kind), and they have to be solved *ad hoc* by decisions taken in relation to the circumstances of the country concerned. They do not make the difference of principle any less valid. The importance of the distinction is that there is no general case for state finance or provision of vocational training. At present, the economic benefit of such training accrues to the individual, although the costs of training are most often met by the state. Recently, our atomic physicists have asked for pay *increases* of figures like £2,000 per annum. These sums have to be paid by the government—the same government which provided them with the necessary training. On the other hand, the state does have a responsibility for ensuring that students are not prevented from obtaining such training by lack of finance. Thus, the ideal solution would seem to be for the state to ensure that *loans* were available for those wishing to undertake vocational training, repayable perhaps as a proportion of future earnings. I cannot pursue this topic here. Suffice it to say that *technical* problems arise in providing suitable loan facilities, but that, as Professor Friedman has shown, there is no reason to believe that these difficulties need be insuperable, given the will.[2]

The arguments adduced for the state's interest in the provision of general education have come to be accepted as reasons for the state itself creating the facilities for such education, to such an extent that discussion of educational topics in present-day Britain normally takes state provision for granted, and focuses attention upon the arguments for its possible extension. The principle itself has ceased to be challenged. Yet none of the arguments adduced suggest that parents as a class are unfitted to undertake the education of their children. Failing this, the most that the community's interest in general education justifies by way of state intervention would seem to be, first, *legislation* to ensure that parents provide their children with facilities to obtain the maximum education, and second, *subsidisation,* to reflect the additional value of such education to the community as a group. I turn now to consider the feasibility of such a system of education provision, and its implications, in more detail.

III. A "Free" Education System

For the moment, let us ignore problems of implementation, etc., and simply ask what an educational system that conformed to the principles and arguments just developed might look like. The basic

[2] See M. Friedman: 'The Role of the Government in Education' in *Economics and the Public Interest,* ed. Solo, 1955. My general argument owes a great deal to the ideas of this paper.

characteristic of such a system would, of course, be that general education facilities would be 'demanded' and paid for by families, and not (as in Britain at present) purchased for the most part by the state and supplied to the consumer at zero cost. Education facilities would be provided by private institutions which could be profit-making or not at their own option. The role of the state would be confined to:

(1) Legislation compelling education up to some minimum age.

(2) The provision of education 'vouchers' to parents with children of school age, to be 'spent' by the parents at schools of their own selection, subject to (3) below. The grants made through these vouchers would be provided by central rather than local government; the decision as to their size should clearly be a central decision, and the grant would need to be the same for all areas if problems of local migration were to be avoided. There is, however, no reason why such vouchers should not be given beyond the compulsory school age, for children who have shown themselves capable of undertaking further studies (see (3) below) and who wish to pursue 'non-vocational' courses. The vouchers could also of course be supplemented by parents who wished to do so.

(3) The maintenance of minimum standards. This would restrict the 'spending' of vouchers to 'approved' establishments, but such approval would not entail detailed supervision of method or curriculum. The basic requirement is a common content in the school syllabus, decided by reference only to the community's interest in general literacy. Beyond this, the state could make itself responsible for a public examination system. This need not be compulsory, but performance at it could provide useful contributory evidence in deciding whether to grant 'approval' to particular schools, and also for the award of 'further education' vouchers.

There seems to be nothing basically impossible in such an arrangement, and all the important elements of it can in fact be found in the education systems of one or other of the Western countries. The prime argument in its favour is, of course, that it ought to result in a devotion of community resources to the provision of education that is a reflection both of parental wishes and of the common community interest in educating its citizens. Before considering how such a scheme might be instituted, or at least approached, in Britain, we must examine some of the arguments (I do not pretend that the list is exhaustive) that might be made against its consequences. There are three arguments that seem to me to be of major importance, concerned with privilege, with the destruction of common social values, and the exacerbation of differences of class and creed, and with the possible emergence of private monopoly.

It could be argued that the ability of parents to purchase education would imply a privileged position for the children of rich parents. The first thing to notice is that richer parents are in a privileged position in the purchase of *anything*, whether for their children or themselves. Objection to this general privilege is simply objection to the existing distribution of income, and the way to deal with this, at least for the kind of society I have been describing, must surely be by measures that affect relative incomes themselves rather than the ways in which people spend them. Given such measures, the only 'privilege' left is simply freedom to spend one's income in the way that seems best. So regarded, it is difficult to see why spending on education should be regarded as a special, and somehow immoral, kind of spending. In any case, parents will endeavour to obtain such extra facilities under any system, as all our own political parties now seem to have recognised, and the proposed voucher scheme would at least ensure that lack of means need be no obstacle to any child of ability.

The second argument against such a scheme in preference to public provision of education is that the state system can preserve the social unity that is necessary for community existence, and that one result of the replacement of that system by parental freedom of choice might be to destroy such unity. This is a very serious question. Plainly, the proposed system would encourage the provision of educational facilities by such bodies as religious organisations, anxious to propagate a particular view of society. These 'tied' schools could obtain funds in the same way as others, simply by persuading parents to send their children to them. They would be subject to control only through the need for approval, and we have already seen that the scheme requires that this concern itself only with minimum educational requirements. If such schools inculcate values at variance with one another, it is argued, they could become an important disruptive element in the community, and a threat to social stability. The argument is not entirely convincing. On the level of principle, it is not easy to find justification for the suppression of, or discrimination against, the views of particular social groups, and it could be argued that such suppression is incompatible over any long period with the continuance of a free society. What is the justification for the continued existence of a society, *qua* society, in which the divergences of view between groups are as grave as this argument suggests? When we turn from principles to the facts as we know them the argument is equally unconvincing. The provision of education by the state itself does not prevent those who wish to do so from using the system to introduce their religious or political views to the young, and in any case in most communities with a state

system of education but a respect for individual freedom of choice in other contexts it has been found necessary to allow religious etc. groups to provide educational facilities outside (or only partly controlled by) the state system. Indeed, there are tenable arguments that the encouragement given to discrimination against such 'outside' bodies by the existence of state education is itself as potentially powerful a disruptive element as could be created by any alternative system. In this respect, it is instructive to compare the experience of France, where the discriminatory treatment of 'tied' schools and state schools from the point of view of finance has become a major political issue, and Holland, where the family grant system was introduced partly to cope with this very problem of group interest in education, and has succeeded in doing so without generating significant social or political dissension. Finally, parental ability to choose the form of their children's education, and to move children from one school to another if they so wished, would itself encourage greater variety in the education system, and in so doing not only reduce the authority of the state but also the importance of 'group' differences as reflected in the character of the education system, by making such differences less sharp. This last point is of special interest in relation to one particular form of distinction that has been the subject of much comment in Britain. It is often argued that the public (*i.e.* private) schools in Britain exacerbate class distinctions. Accepting this for the purposes of the argument, how would the situation be changed by introduction of the proposed system? The public schools would not disappear, at least so long as they could attract pupils. But they would now have to compete directly and on more equal terms with other schools, both for teachers and for students, since all schools would now be privately provided. In my view, the resultant competition and the increased variety of educational provision that would develop would go far to destroy the 'separate' character of the public schools which is the reason for so much of the present objection to them, and would do so without necessarily destroying what is valuable in their outlook and tradition.

Finally, there may be some areas in which the number of children is too small to support more than one school. This gives the purveyors of education in the area a monopoly, to which objection can be taken, as mentioned earlier, on grounds that the freedom of choice of parents becomes illusory. As with monopoly in other fields, there is no perfect answer; it would be necessary to choose between state provision in such areas and private provision with, perhaps, additional supervisory safeguards on the part of the government. Such problems would not be widespread in Britain, given the present development of

the system of transport and communications, and they do not constitute an argument of principle against the introduction of the proposed scheme.

So much for the prototype to be aimed at: it remains to consider, albeit very sketchily, what steps might be taken to move towards it in present-day Britain.

IV. An Outline Policy

I shall concern myself first of all with primary and secondary education. The first problem that would arise in moving from our present educational system towards one that provided a more adequate reflection of parental choices would arise out of present methods of finance. I have argued elsewhere against the proposal to merge the present Education General Grant with the unallocated grant-aid from the central to local government.[3] There, my prime objection was that the increase in local autonomy implied by the measure is largely illusory, given the pressures for uniformity of treatment in education provision that now exist and the Government's acquiescence and support of such pressure. I argued there for a 100 per cent. grant for education. In the present context, there is an additional argument for complete central finance, in the fact that *local authority* financial autonomy, however partial, must constitute an obstacle to the family autonomy in education which is my eventual aim. If the central government controls finance, it becomes more possible to take steps to associate the parent with decisions about education provision. Given such control, the next step would be to place the state (local authority) and the private (public) schools upon a more equal footing. The most simple first measure might be to continue to finance local authority education by a *per capita* grant to meet current expenditures, but to allow parents who wished to do so to 'contract out' of the system. On contracting out, the private school chosen by the parents would be paid a fee by the government equivalent to the *per capita* grant being paid to local authorities. The *per capita* grant would be uniform except for areas that could show the existence of special difficulties of the kind discussed earlier, such that market provision of education would not be possible or would be possible only for a monopolistic supplier. Local authorities would be forbidden under this scheme to subsidise education out of rates or other income, but would be permitted to charge such fees as they found necessary and could persuade parents to pay .

[3] J. Wiseman: 'The Future of Local Government Finance,' *Lloyds Bank Review*, July 1951.

This would take care of the immediate short-run situation, by placing the private and state schools upon a more equal competitive basis. It leaves outstanding, however, the question of new building. In the longer run, it would be necessary for the government to adjust the size of its *per capita* grant in a fashion that took account of the need to replace capital as one of the costs of education. It might be necessary to distinguish existing and new schools in the interim period, placing local authority and private schools on the same footing in terms of the assistance given to new building. If the scheme then showed signs of encouraging a satisfactory volume of private building for educational purposes, local authority development could gradually be prevented except in so far as it proved necessary to supplement private provision in order to maintain an adequate range of choice or to control monopoly.

At University level, the scheme would require the replacement of the University Grants Committee by an increase in size of the awards made to 'qualified' students: the remainder of University finance would come from the fees of those pursuing 'vocational' courses, and from additional charges that particular universities find themselves in a position to make. At this level, the grants made for advanced education believed to have a 'community' as well as a 'personal' value need be less uniform than at lower levels, so that the fact that fees at some universities were higher than at others need not debar students with small private means.

This is obviously a most inadequate summary; the far-reaching changes being suggested would merit considerable further elucidation. Since this is not possible, let me conclude with the suggestion that in one respect at least little change would be needed. The necessary facilities for creating the inspectorate needed for the proposed scheme, and for operating a general system of examination under it, are already in existence.

J. WISEMAN

London School of Economics

THE HIGHLAND ECONOMY, 1750-1850[1]

Opinion on the 'Highland problem' too often falls into one of two radically opposed camps. To some, it, like the poor, will always be with us; to others, it is capable of fairly easy solution provided certain appropriate administrative and economic remedies are applied. Both groups err through failing to appreciate the essence of what really is the 'Highland problem.' In the first place the problem is not only economic; the social environment of the Highlander is equally relevant. Secondly, although some economic problems may perhaps be successfully considered without knowledge of their historical origins, this is certainly not so with the Highlands. Lack of knowledge of the history of Highland society can result only in facile and futile economic policy for its future. The essence of the present 'Highland problem' is to be found only in the past. In helping many towards such an appreciation, Mr. Gray's book will be particularly successful. Readers of the *Scottish Journal of Political Economy* have already encountered aspects of his work on this topic; now we have a brilliant synthesis.

Mr. Gray is concerned with a century when two sets of ideas and customs came into conflict in the Highlands. On the one hand were those derived from the earlier society of the clan, when strategy rather than economy dominated Highland life. Hence came the recognition of the binding obligations of kinship and the attachment of the Gael to the land. On the other hand were the new, primarily economic, motives, acceptable in an industrial society but not in one ruled by custom. The refusal of the Highlander to accept these, to allow his conduct to be motivated by economic ambition, is not only an historical episode. It is also relevant to the present. But in the eighteenth century such an ideological clash would alone have rent Highland society; its impact was worsened by the contemporaneous population increase.

Mr. Gray analyses the response of the Highland economy to the stimulus of the new motives, but, as is usual even today, the response differed. In the south and in the east physical endowments were more favourable; the arable holdings were larger and population did not show the concentrated expansion of the north and west. So the land was improved; there was 'solvency through reform.' The north and west, particularly to the west of the watershed, remained, then as

[1] Malcolm Gray, *The Highland Economy*, Edinburgh: Oliver & Boyd, 1957. 25s.

now, the inevitable problem area. In contrast to the east, natural endowments were inferior and population pressure greater. Also the greater conservatism of this area, the desire to resist change and to retain as much of the old life as possible, meant, though it was part cause, part effect, that the response to the challenge of the new economic motive was less successful. The area was thus placed in a fundamentally difficult and dangerous position. Though still retaining much of the old organisation, the west, and above all the landlords, needed an increasing cash income. Today, crofting cannot be a full-time occupation ; a supplementary cash income is necessary. So, too, in the past and in the eighteenth century, increasing population alone led to a worsening of the balance of trade between the Highlands and other regions. Imports of meal to the Highlands were continuous. So the need for supplementary cash income grew. Fortunately, agricultural prices moved in favour of the Highlands, particularly important initially at any rate being the price of cattle, virtually the only saleable product from the area immediately after 1750. Traditional non-agricultural produce, linen and fishing, helped too. But the startling contribution was made by kelp production, particularly when the Napoleonic Wars sent prices up sharply, though rather erratically. By such favourable price movements, the economy of the problem area was bolstered, and so the increasing discrepancy between the economy of the Highlands and of the rest of Scotland was cloaked. The improvement was only short-term ; in contrast to the south and east, no long-term reforms were made. Yet, though it was unable or unwilling to adopt reforms which would have assimilated it into the economy of the rest of Britain, as far as this was possible, the west could not isolate itself from national, or even international, economic forces. So when, for reasons largely outwith Highland control, prices fell (and the fall was concentrated particularly in typical Highland products), the economy of the west and north was in an even less viable position than previously. As cash income fell drastically, emigration appeared to be the only solution. With blight in the potato (on which the Highlander had become increasingly dependent), it was.

Mr. Gray provides us with the information necessary to place Highland emigration in its proper context. In few ways does his much more extensive study detract from the basic conclusions of M. I. Adams' frequently neglected articles in the *Scottish Historical Review* of nearly thirty years ago. But after Mr. Gray it is to be hoped the changes of the period will be viewed more dispassionately. The clearances must be viewed in perspective. The introduction of sheep then falls into a secondary role, and the sweeping nature of the

changes, as, above all, in Sutherland, was not universal. Admittedly, the measures caused grievous individual suffering, and were sometimes carried out in a heartless fashion, but the objection must be mainly to the method. To suggest that emigration could have been avoided by a return to the social ideals which existed before 1745 is quite unrealistic. However much the Highlander may have wished to isolate himself from the economic and social change industrial development elsewhere was bringing, and it is not altogether clear that this was his desire, he could not do so. In the eighteenth century, the economic position of the Highlands relative to the rest of Scotland was bound to decline. Certain fortuitous short-term advantages staved off the evil day, but once these advantages were removed, the insecurity of the position was made more evident more quickly.

Though this means that some of the more violent attacks against Highland landlords must be withdrawn, the blame for the impasse of the Highland economy in the west and in the north by the middle of the nineteenth century cannot be laid wholly against impersonal market forces. The Highlander was subject to them, but in the nature of his response the personal equation was relevant. Unfortunately, the Highlands did not have the mercantile class which elsewhere in Scotland in the eighteenth century so often initiated development. Here, however, the Highland lairds were at fault. The most tragic part of Mr. Gray's story is the way in which the surplus, which the high prices for Highland products made possible, was taken almost entirely by the landlords and used apparently, since their debts increased, for consumption. The case of Clanranald is most striking only because he held major kelping areas, but the story is the same with many. The contrast with the improving lowland lairds is obvious. Yet it must be remembered that an improving policy, if it had been possible in the topography of the western seaboard and in the islands, would almost certainly have implied fewer people. Agricultural improvement would have been unlikely to provide support for the increasing Highland population. So, if the criterion of judgment is only how a maximum population may be maintained, even the policy of the Highland landlords, short-sighted as it was, cannot be condemned out of hand. Also in their favour, the pre-1745 social ideas had not completely left them. Their support to tenants after the fall in prices was charitable rather than economic.

Though it is possible to derive from Mr. Gray's book a general picture of the economic growth of the Highlands, little is more clear in it than the intense variety of the area. Hardly any two parishes, or even townships, and certainly no two islands are alike today, nor were they two centuries ago. The basic distinction, of course, is

between east and west, yet within these, allowance must be made for diversity. This Mr. Gray does in full. The wealth of illustrative material he uses is so wide that the argument may therefore be more difficult to follow for those who do not know the area intimately. But for anyone wishing to understand the Highlands today, the solution of such regional differences is a necessary exercise.

Recent publications on the present position of the Highlands have been able to devote only a minor, introductory part to the history of the problem. Mr. Gray has now written on this aspect in absorbing detail. It will not need to be repeated.

R. H. CAMPBELL.

University of Glasgow

RECENT ECONOMIC TRENDS

Food and Agriculture in Scotland [1]

The main purpose of this article is to bring together and comment upon the statistical information on Scottish farming that is available for the last ten years or so. An incidental aim will be to compare the consumption of food and the structure and trends of agriculture on both sides of the border. As the effect of this comparison may be to draw attention to the differences between Scotland and the rest of Britain, it may be advisable to stress that for some purposes of analysis these differences are less significant than the similarities. The general level of husbandry, the degree of mechanisation, the proportion of the population working on the land, the ratio of farmers to farm workers, the size distribution of farms—by these and other criteria one would be justified in emphasising what is common between Scottish and English farming, not what is different. But there is a separate Department of Agriculture, an autonomous Agricultural Wages Board, and —on occasion—separate farm legislation for this country. A Scotsman may therefore feel that reason as well as national prejudice lies behind any separatism or undue emphasis on points of contrast that may emerge from a study of this sector of the Scottish economy.

Consumption by someone is the final aim of all farm production, so it is proposed to examine, in the first place, the diet of the Scottish people and the extent to which it is provided from home agriculture. A description of the present structure of output and costs in the industry will follow, and this, in turn, will be succeeded by an account of the trends of output, prices and incomes.

Table I gives details of the weekly diet in Scottish households in 1956 and reveals the foods that were less or more popular in Scotland than in Britain as a whole.[2] Comparable percentage figures for 1955 are very similar, with one exception—margarine and butter have changed places. It would appear that the fall in butter prices and slight rise in margarine prices that took place from 1955 to 1956 brought about a bigger switch to butter in Scotland than in England.

[1] I should like to acknowledge the help given by members of the Economic Staff of the Department of Agriculture for Scotland in preparing this article. None of them, of course, are responsible for opinions expressed or factual errors that remain.

[2] Comparisons are made with Britain in this case but with the U.K. in most of what follows.

A question that is often asked is whether Scotland is more self-sufficient in foodstuffs than the rest of the U.K. The writer has discussed this in an article in *The Scotsman* (26 November 1957) and

TABLE I

HOUSEHOLD FOOD CONSUMPTION IN SCOTLAND

Product	Oz. per head per week in 1956	Percentage of British consumption	Percentage in 1955
Oatmeal	2·9	262	234
Cakes and biscuits	14·6	133	131
Sausages	4·6	131	139
Beef and veal	12·4	124	121
Eggs (no.)	5·2	120	118
Potatoes	63·2	108	105
Butter	5·0	107	94
Vegetables (except green)	17·3	102	111
Sugar	21·9	101	97
Liquid milk (pint)	4·8	100	99
Fish	6·0	98	100
Margarine	4·2	93	104
Cheese	2·6	90	84
Fruit	21·8	80	74
Flour	5·8	73	60
Bacon and ham	3·4	67	61
Mutton and lamb	2·8	39	39
Fresh green vegetables	5·4	31	36
Pork	0·6	31	25

Source: Table 2, Appendix E, *Domestic Food Consumption and Expenditure, 1956.*

TABLE II

HOME PRODUCTION AS A PROPORTION OF CONSUMPTION IN 1955

Product	Scotland	United Kingdom
Beef	95	67
Mutton and lamb	200	33
Cheese	65	33
Butter	12	7
Pigmeat	100	70
Liquid milk	100	100
Eggs	75	90
Fresh fruit	20	35
Vegetables	30	70
Wheat and flour	5	25
All food products (approx.)	60-65	50

Sources: White Papers on the Annual Price Review; Reports of Commonwealth Economic Committee; *Scottish Agricultural Economics; Domestic Food Consumption and Expenditure, 1955.*

considers that Table II, which comes from this article, gives as accurate a picture as can be obtained at present.

The present economic structure of Scottish farming is most readily summarised through the device of the national farm account. In this, the farms of Scotland are treated as a single business unit, and receipts and expenses are listed in sufficient detail to reveal the structure of output and of costs. Table III, which sets the Scottish account alongside U.K. figures, reveals a number of interesting differences (e.g. the relatively smaller expenditure on feeding stuffs and higher expenditure on fertilisers in Scotland), but the similarities of the two structures are also very obvious. The net incomes (or profits) of farmers appear to be a larger proportion of total output in Scotland than in the U.K., but part of this difference may be the result of slightly different methods of estimating some items of expenditure.

TABLE III

NATIONAL FARM ACCOUNTS FOR SCOTLAND AND THE U.K. 1956-57

EXPENSES	Scotland £m.	Scotland %	U.K. %	RECEIPTS	Scotland £m.	Scotland %	U.K. %
Labour	35·7	20	20	Grain crops	10·0	—	2
Rent	6·2	5	5	Potatoes	10·6	6	9
Interest	2·5			Sugar beet	0·8	6	4
Machinery	20·8	12	13	Fruit and veg.	5·7	3	7
Feeding stuffs	29·4	16	23	Other crops	6·0	3	4
Seeds	5·3	3	2				
Fertilisers	15·4	8	6	Total crops	33·1	18	26
Store livestock	8·6	5	4				
Miscellaneous	12·7	7	6	Livestock	62·7	35	29
				Milk	40·8	23	24
	136·6	76	79	Eggs and poultry	18·9	11	13
				Wool	4·5	3	1
				Total livestock	126·9	72	67
				Production grants	15·1	8	5
Net income (approx.)	42·8	24	21	Change in valuation of crops and stock	4·3	2	2
	179·4	100	100		179·4	100	100

Sources: Scottish Agricultural Economics, Vol. IX; *Annual Abstract of Statistics*, 1958.

There are a number of ways of measuring changes in agricultural production and official estimates of gross and net output are published annually. Gross output measures the value of produce sold off the

national farm, together with what is consumed in farm households. Net output is defined as gross output less imported feeding stuffs, stock, and seeds and some other costs. (Purchases of machinery, fuel, fertilisers and other requirements are not deducted.) Table IV shows that gross and net output in Scotland (at constant prices) have risen by an average of 3 per cent. per annum over the last ten years. Gross output in Scotland has risen more slowly than in the U.K. but net output has increased at much the same rate. A major cause of this divergence appears to be the relatively lower purchases of imported feeding stuffs in Scotland remarked on earlier. The government has been emphasising the importance of net rather than gross output in recent years, and it would seem that Scottish farmers, consciously or otherwise, have been conforming more successfully to the official line.

Table IV also includes a column showing changes in agricultural manpower in Scotland and if the net output index is divided by this manpower index, one gets an estimate of changes in the net output per man. Comparable figures for the United Kingdom are not pub-

TABLE IV

AGRICULTURAL OUTPUT IN SCOTLAND AND THE UNITED KINGDOM

(at 1945-46 prices; pre-war average = 100)

Year	Gross output		Net output		Agric. manpower (Scotland)	Net output per man (Scotland)
	U.K.	Scotland	U.K.	Scotland		
1947-48	104	102	123	122	105	116
1948-49	116	110	138	131	105	125
1949-50	120	118	141	141	103	137
1950-51	122	116	142	140	103	136
1951-52	128	118	147	141	101	140
1952-53	131	127	151	153	95	161
1953-54	137	127	155	150	94	160
1954-55	139	128	151	147	93	158
1955-56	140	129	155	151	90	168
1956-57	146[a]	137	160	163	88	185
1957-58[b]	148[a]	134	161	158	88	179

[a] Estimates. [b] Official forecasts.

Sources: Annual Abstract of Statistics; White Paper on Agricultural Price Review Cmnd. 390; *Scottish Agricultural Economics,* Vols. I-IX; G. F. Hendry, 'Labour in Scottish Agriculture,' *Journal of Agricultural Economics,* Vol. XI, No. 4.

lished but agricultural manpower in Scotland appears to have been declining at least as rapidly as in the U.K. Net output per man gives a rough measure of productivity in agriculture but it is not

comparable with that calculated for other industries, as allowance has not been made for the increased use of machinery, fertilisers, and other non-farm resources. Insufficient data is published to enable such a comparison to be made with any confidence but from what evidence is available the writer considers that the rise in agricultural productivity in Scotland has been as great if not greater than the 30 per cent. increase in industrial productivity that has taken place during the last ten years.

Agricultural price series are published for Scotland and for England and Wales. A comparison of the two series (in Table V) shows that Scottish farm prices have now reached roughly the same relationship to English prices as they had in the base period (1927-29) and rarely achieved in the intervening years.

TABLE V

INDEX NUMBERS OF GENERAL AGRICULTURAL PRICES[a]
(1927-29 = 100)

Year	England and Wales	Scotland	Year	England and Wales	Scotland
1934	77	72	1952	269	264
1939	91	86	1953	274	271
1944	167	151	1954	272	265
1949	229	222	1955	287	284
1950	237	230	1956	288	278
1951	260	256	1957	280	285

[a] Exchequer payments are included

Source: Agricultural Statistics

The prices used in Table V include payments made under the various systems of price guarantees and the question has been asked whether Scottish agriculture gets its 'appropriate' share of such subsidies. Exchequer support to agriculture is given in two main forms —through guaranteed prices and in direct production grants (for liming, ploughing-up, hill stock, fertilisers, and so on). As Table VI shows, Scotland's share of production grants has been above 20 per cent. and her share of price subsidies between 10 and 12½ per cent. during the last three years. As our share of U.K. agricultural output has been about 12 per cent. it would seem that in recent years Scottish farming has been benefiting slightly more from agricultural support than the rest of the U.K. Such a position might change quickly, however; the virtual disappearance of subsidy payments on fat cattle during part of 1958/59 will certainly reduce our share of farm subsidies for the current year.

TABLE VI

SCOTLAND'S SHARE OF AGRICULTURAL SUBSIDIES

Year	Price subsidies		Production grants		Total subsidies as percentage of U.K.
	Scotland	Percentage of U.K.	Scotland	Percentage of U.K.	
	£m.	%	£m.	%	%
1955/56	14·0	9·9	13·3	22·9	13·6
1956/57	20·7	12·7	15·9	22·4	15·2
1957/58	24·8	12·3	15·9	20·5	14·6

Sources: Scottish Agricultural Economics, Vol. IX; *Hansard,* 14/2/1957 and 29/1/1958.

What have all these developments meant for the people who work in agriculture? Of the three categories of agricultural income (wages, profit, rent), wages can be estimated most easily for we know the minimum rates fixed by the Wages Board and also have official estimates of weekly earnings of various categories of workers. In Table VII the weekly wage rates of general workers and the weekly earnings of tractormen and adult males since 1947 are translated into 'real' terms by the use of the retail price index, and are then set alongside the series for net output per man, already discussed.

TABLE VII

AGRICULTURAL WAGE-RATES, EARNINGS AND OUTPUT IN SCOTLAND

(1947-8 to 1957-8, June to May)

	Minimum wage rates (general workers)	Weekly earnings		Retail price index	'Real' wage rates (general workers)	'Real' earnings		'Net output' per man[b]
		Tractor-men	All adult males			Tractor-men	All adult males	
1947/48	100	100	100	100	100	100	100	100
1948/49	104	103	105	107	97	96	98	108
1949/50	108	109	111	109	99	100	102	118
1950/51	113	111	115	114	99	97	101	117
1951/52	117	121	127	127	92	95	100	121
1952/53	125	130	135	135	93	97	100	139
1953/54	131	139	143	137	96	101	104	138
1954/55	136	147	151	141	96	104	107	136
1955/56	146	155	162	149	98	104	109	145
1956/57	154	166	174	154	100	108	113	159
1957/58	163	175	186[a]	165	99	106	113[a]	154

[a] Estimate. [b] Re-calculated from Table IV.

Sources: Annual Abstract of Statistics; Scottish Agricultural Economics, Vols. I-IX.

It will be seen that the main benefit agricultural wage-earners have derived from increased productivity in the industry over the last ten years has been through an excess of earnings over minimum rates. The general worker on the statutory rate has been marking time since 1947, although his position had improved during the war. Tractormen, who now make up one-third of the adult male labour force, have increased their real earnings by 6 per cent., but stockmen have received a larger rise and the weighted average increase for all adult male workers has been about 13 per cent., or one-quarter the rise in net output per man.

Since 1952 the minimum rate for general farm workers has been fixed at a lower level in Scotland than in the rest of Britain. Despite this, average weekly earnings have been roughly the same on both sides of the border. A higher proportion of Scottish workers are classified as specialists (stockmen, shepherds, tractormen, etc.) and their higher earnings raise the average. The earnings of general workers in Scotland, however, have been lower than the earnings of English general workers, suggesting that the difference in the statutory minimum rates has had some effect.

In so far as there is a wages policy in Scottish agriculture, it appears to be to use the legislative machinery to maintain minimum 'real' rates near to, but not above the 1947 level, and to allow the farmers' demand for labour to widen the gap between earnings and minimum rates. Farmers' net incomes (or profits) in Scotland appear to be more difficult to estimate than wages, and no official figures are published that are strictly comparable with U.K. data. Farm rents are also difficult to measure, for about 40 per cent. of the crops and grass land in Scotland is now owner-occupied and its 'rent' has been estimated in an arbitrary way. Table VIII brings together estimates by the writer

TABLE VIII

AGRICULTURAL INCOME IN SCOTLAND

	Pre-war		1949/50		1956/57	
	£m.	%	£m.	%	£m.	%
Wages .	9	43	28	44	36	42
Rent . .	4	19	5	8	6	7
Farmers' net income	8	38	30	48	43	51
	21	100	63	100	85	100

Source: Estimates based on information in *Scottish Agricultural Economics* and White Papers on the Annual Price Review.

of the various categories of agricultural income for 1956/57, 1949/50 and just before the war. No strong claims to statistical accuracy are made for the figures, but they are believed to be the best estimates that can be offered at present.

The main change in the composition of agricultural income is undisputed—the share of farmers' profits (including interest on their capital) has risen at the expense of rent. Another important point (not revealed in the table) is that the share of the total national income of Scotland going to agriculture is now approximately back to the pre-war proportion, after rising above it during and after the war. The proportion of the working population engaged in agriculture is now smaller than before the war, however, so that the agricultural community is relatively better off, with an average income per head of between 85 and 90 per cent. of national income per head. This is a high proportion compared with most other countries. It is achieved despite the fact that the earnings of agricultural workers are about 75 per cent. of earnings in manufacturing industries; a relatively high proportion of those engaged in agriculture are farmers on their own account receiving annual incomes of £1,000 or more and this pushes up the average income per head.

G. HOUSTON

University of Glasgow

Spending Patterns in U.K. and U.S.

Recently there has been much concern in Great Britain, as in most developed countries, with the suspected 'inflationary' effects of credit buying by consumers. That much of the discussion on this topic has been concentrated on the growth of hire purchase rather than the equally large volume of revolving credit, reflects a general lack of information about consumer credit in general. However, even though a consistent series of credit statistics is not yet available, an examination of the way in which consumers are using their incomes may prove enlightening.

Most credit buying takes place in the field of consumer durables—cars, television, furniture and refrigerators—and one of the most important factors in fixing demand for them is personal income. This truism needs modification; in relation to consumer durables, the decisive factor is not the size of the gross pay packet, or even the disposable income left after all tax and pension deductions, but the sum actually available for what may be termed 'discretionary expenditure' or the amount each individual has available for non-essential consumption.

To calculate this, consumer expenditure is broken down into two broad groups. The first of these may be termed '*committed expenditure*' and consists largely of items such as food, drink, tobacco, housing, fuel and light, clothing and essential transport (Table I). Now there can be much argument as to whether these items should all be classed as essential but from a commonsense point of view all deserve inclusion since spending on them in a modern society cannot conveniently be avoided. A few comments may be appropriate here on the post-war pattern of this 'committed expenditure'. The amount spent on foodstuffs has been rising steadily indicating (after allowing for increased population) a perceptible rise in feeding standards. Thus there has been a switch to more expensive foodstuffs with more butter, canned fruit, sugar, meat, eggs and cheese being consumed and a falling demand for jam, flour and potatoes.[1] To a greater or lesser degree, this development can be perceived in nearly all Western European countries and is very noticeable in America.

[1] See the Treasury '*Bulletin for Industry*' No. 114 for a detailed analysis of food consumption trends.

This trend has important implications for other goods. Once an economy has been jerked into a higher food consumption pattern, the new standard will only be relinquished as a last resort. It is yet another example of the familiar ratchet action in modern society where wages—and food standards—move upwards easily but downwards with difficulty. American experience indicates that during a recession spending on services and durables is cut before any adjustment in food standards takes place. This may well apply to Britain. Spending on all ' committed ' items has been well maintained, or even increased, despite fluctuations in economic activity. The only item to lose ground in the post-war years is spending on essential public transport; this has remained constant despite an increasing population and dispersal of industry. This is the result of more private motoring and raises the question whether this type of expenditure also contains a large ' committed ' element.

The residual left after essential spending is completed covers durables, entertainment, travel, services, private motoring, saving and holding of liquid assets. This residual, the gross sum available for discretionary spending, has risen appreciably since 1948. Further, in every year (except 1949-51) when retail prices went up steeply, it rose more rapidly than the net pay packet. Taking the whole period from 1948 to 1957, disposable income rose by some 1·7 per cent. per annum while discretionary spending power was increasing by 7 per cent. per annum. Whereas in 1948 27·6 per cent. of the net pay packet was set aside for non-essentials, by 1957 this had risen to 37·5 per cent., despite higher food standards, and this proportion looks as though it will rise even further.

Even allowing for the impossibility of accurate calculation, this trend seems, at first sight, somewhat incredible. An explanation is available. For a start, there has been a small but steady rise in real income over the years which shows up in the net personal income figures. Broadly speaking, one would expect discretionary spending power to go up *pari passu* with this rising net income, that is by 30 per cent., for example, between 1951 and 1957. Instead it rose by 80 per cent. This steep and disproportionate rise after 1951 came with the accession of large numbers of young people to the labour force. Today they are in the 16 to 24 age group and have relatively high earning powers (being in newer industries and working overtime). They have few family commitments and make relatively small contributions to household expenses. Mark Abrams has suggested that these young people have £900 m. of purchasing power in their hands, most of it

discretionary.[2] Thus a quarter of all income available for non-essential buying may be controlled by teen-agers and young people.

Lesser factors may also be present; the ever-increasing older portion of the population may be spending less on committed items such as food and clothing, and more on services. Endowment policies now maturing at an increasing rate, capital gains, and even the inverse re-distributive effect of large wins on football pools may all encourage discretionary spending. But the main reason for the sharp rise since 1951 in the amount of income available for non-essential spending lies in the increased earnings of the 16 to 24 group.

This helps to explain another phenomenon. It is commonly believed that demand for consumer durables (often equated with demand for credit facilities) has risen sharply of recent years. In fact, the proportion of discretionary spending taken by consumer durables has remained fairly constant. In 1938, nearly half of uncommitted expenditure went on consumer durables; in the post-war years, the proportion rose slowly from 26·9 per cent. in 1948 to a peak of 30 per cent. in 1954. Since then it has declined and consumer durables now account for 25 per cent. of discretionary expenditure. Certainly since 1951 demand for consumer durables has not risen as sharply as the income available to buy non-essentials. This has partly been the result of government restrictions but, much more significantly, youngsters with money to spend are not very interested in consumer durables (motor cycles and record players excepted). Instead they spend on 'fashion' clothing, drink, tobacco, snacks and the 'pleasures of addiction'. Thus there is the paradox that the younger generation seems to be largely cash customers while their elders resort extensively to credit buying.

Another important trend in the use of net personal income is the surprisingly well-maintained rise in personal savings over the last five years. Increased savings are often held to be an effective method of curbing demand for consumer durables. This is by no means certain; there is evidence that recently private savings helped to by-pass the credit squeeze by making funds available to finance companies for H.P. transactions. Credit buying may well ultimately be a re-distribution problem rather than an inflationary one.

Summing up, there would appear to be a reservoir of purchasing power which is not at present going into consumer durables. With the amount available for discretionary expenditure rising faster than expenditure on consumer durables, it would appear that sales of the latter could be safely increased. At the moment the position is fairly

[2] Mark Abrams. 'The New Customer'. Paper delivered at B.I.M. Conference, 1958. Between 1938 and 1958 the earnings of the 16-24 age group rose by 50 per cent. while discretionary spending power rose by 100 per cent.

stable with discretionary spending poised between consumer durables (25 per cent.), savings and liquid assets (23 per cent.) and services (52 per cent.). It is by no means certain that there will be a marked increase in the percentage allotted to consumer durables, since services may become an ever-stronger competitor. Whether spending on services is less inflationary and more desirable than spending on durables has, as yet, received little attention.

A glance at the post-war American scene yields somewhat similar results (Table II). It should be appreciated that the contents of the 'committed sectors' in the two countries are only roughly comparable. Essential American expenditure contains items which in Britain would be termed discretionary (e.g. certain services) and America is committed to higher living standards than Britain. Having entered this caveat the same trends emerge. America is spending more on food with a swing towards better quality. There is clear evidence of a determination to retain higher living standards; when food prices rose in 1951, committed expenditure went up by $6 b., $4 b. of which came from increased disposable income and $2 b. from cutting back discretionary spending.

As for discretionary spending power, it not only has risen much faster than disposable income but achieved the remarkable average increase of 20 per cent. per annum between 1948 and 1956 (compared with 7 per cent. in the U.K.). This expansion has not been as regular as in Britain—uncommitted income fell in 1951, was near constant from 1952-1954, and rose sharply in 1955. These plateaux may coincide with the introduction of new food and service standards into the 'committed' budget. However, the trend is clear; discretionary expenditure formed 22·9 per cent. of disposable income in 1948 and rose to 35·4 per cent. in 1956.

Compared with Britain much more emphasis is placed on consumer durables. These took up over half of uncommitted income in U.S.A. just after the war but relatively they have been losing ground. Today consumer durables account for 36 per cent. of all U.S. discretionary spending, saving takes up 20 per cent., leaving some 40 per cent. for miscellaneous services. The fact that 'free' spending power is rising more rapidly than sales of consumer durables has led several U.S. finance houses to state that consumer credit could expand greatly there with no adverse effects on the economy.[3] This argument would only

[3] A Johnson, 'Discretionary Income and the Use of Consumer Credit'. National Consumer Credit Conference Proceedings, 1953. Johnson claims that in U.S.A. consumer credit could expand by 75 per cent. without exceeding the 1940 ratio to discretionary spending power. This ignores rising food standards and growing use of services.

be tenable if consumers switched from services to durables and did not attempt (as in practice they would) to increase consumption of both.

Thus in Britain and America consumers display, in differing degrees, the same trends:

(a) A tendency to cling to higher food and service standards.
(b) The amount available for discretionary spending is rising steadily and faster than disposable income.
(c) Expenditure on consumer durables is rising more slowly than discretionary expenditure itself.

These conclusions have important implications for the United Kingdom both as regards marketing problems raised by the increase in teen-age incomes and in re-assessing the part played by consumer durables in the British economy.

LESLIE C. WRIGHT

University of Edinburgh

Table I

TRENDS IN THE USE OF NET PERSONAL INCOME IN U.K.[a]

	1938	1948	1949	1951	1954	1955	1956	1957
	£m. at 1948 prices							
1. Committed expenditure:[b]								
Food (excluding cafés, hotels, institutions, etc.)	1800	2005	2099	2168	2290	2319	2356	2387
Alcoholic drink (excluding business)	836	784	755	795	807	838	859	878
Tobacco	680	784	755	768	811	831	842	865
Housing (rent, rates, maintenance)	661	745	743	757	829	811	815	831
Fuel and light	318	324	322	350	364	375	391	383
Household goods (matches, soap, cleaning)	98	82	96	107	123	128	131	135
Clothing	938	902	968	907	968	1030	1061	1074
Transport[c]	104	164	169	163	173	174	173	173
Consumer durables for new housing[d]	12	23	21	17	26	22	20	23
Interest payments (on advances and mortgages; excluding H.P.)[e]	25	72	79	93	116	129	140	153
Insurances (compulsory fire, mortgage endowment)[f]	20	75	75	80	85	90	95	98
	5492	5960	6082	6205	6692	6747	6883	7004
2. Net personal income (after all deductions)	6795	8243	8433	8535	9619	10128	10437	11208
3. Discretionary expenditure[g]	1302	2283	2351	2330	3017	3381	3554	4204
	Percentages							
4. Discretionary expenditure as percentage of net income	19·2	27·6	27·8	27·3	31·4	33·8	34·1	37·5
5. Consumer durables as percentage of discretionary expenditure	48·2	26·9	26·1	27·5	30·0	24·4	26·1	23·7
6. Savings as percentage of discretionary expenditure[h]	27·9	—	2·1	1·7	14·3	21·5	25·1	22·5

7. Rates of annual increase in:	1948-49	1949-51	1951-54	1954-55	1955-56	1956-57
(i) Net personal income	2	1	13	5	3	5
(ii) Discretionary expenditure	3	−1	29	12	5	18
(iii) Consumer durables	13	6	41	11	−8	8

[a] Net personal income is income net of all direct taxes, including NHI contributions made to pensions schemes.

[b] Committed expenditure comprises those payments which form a first claim on pay packets; apart from obvious items such as food and housing, drink and tobacco are included because they are in inelastic demand.

[c] Railway season tickets, early morning and workmen's tickets; 75 per cent. of road passenger receipts.

[d] Trade estimate. This is largely cash since many couples have saved enough, or are given enough, for minimum home-establishment needs.

[e] Interest charges largely arising from house purchase. Mortgage repayments of principal are excluded in that they are covered by the imputed income to houseowners under 'Housing'.

[f] Compulsory fire assurance for mortgaged property and commitments arising from house purchase by endowment insurance.

[g] Discretionary expenditure is a residual to cover consumer durables, entertainment, travel, services of all types, private motoring running costs, savings and/or liquid assets.

[h] Savings consist of personal net increases in assets, including stock appreciation and depreciation.

TABLE II

TRENDS IN THE USE OF NET PERSONAL INCOME IN U.S.A.

	1940	1945	1948	1949	1950	1951	1954	1955	1956
	$ billions at 1947 prices								
1. Committed expenditure[a]	90·2	107·5	136·7	135	134·5	140·6	146·3	149·4	156·3
2. Disposable income	127	181	177·4	179·6	194·1	198	212·3	229·4	242·2
3. Discretionary expenditure	36·8	73·5	40·7	44·6	59·6	57·4	66	80	85·9
	Percentages								
4. Discretionary expenditure as percentage of disposable income	28·9	40·6	22·9	24·8	30·7	28·9	31·1	34·9	35·4
5. Consumer durables as percentage of discretionary expenditure	32·6	12·1	53·8	55·2	45·2	42·2	40·9	40·5	36
6. Savings as percentage of discretionary expenditure	19	44·8	22·1	16·1	18·9	27	23·9	18·1	20·3

7. Rates of annual increase in:	1948-49	1949-51	1951-54	1954-55	1955-56
(i) Disposable income	1·2	10·2	7·2	8·1	5·8
(ii) Discretionary expenditure	9·5	28·6	14·9	33	7·4
(iii) Consumer durables	4·3	1·6	11·0	20·4	−4·4

Sources: Statistical Abstract of the U.S.A. 1952, 1956, 1957; *Economic Report to the President,* 1958.

[a] The basis of calculation is roughly the same as that for the United Kingdom (see Table I). However, committed expenditure in U.S.A. contains service elements needed to maintain a higher living standard (e.g. laundries, dry-cleaning, etc.). The basic items are food, clothing, housing, transportation and medical services. Expenditure by private individuals in cafés and hotels is excluded as far as possible.

CURRENT TOPICS

The fifth Annual General Meeting of the Scottish Economic Society will be held in the College Rooms, the University, Glasgow, on Monday, 9th March, 1959. Tea will be served to members at 5.15 p.m., and the business meeting will begin at 5.45 p.m.

BOOKS RECEIVED

The Strategy of Economic Development, by A. O. Hirschman. (Oxford University Press, 1959.)

Black Dyke Mills, a History, by Eric M. Sigsworth. (Liverpool University Press, 1958. 35s.)

The Future Organization of Banking. The Institute of Bankers for Scotland. (William Blackwood & Sons Ltd., Edinburgh and London, 1958. 20s.)

Microeconomic Theory, by James M. Henderson and Richard E. Quandt. (McGraw Hill Book Co., London, 1958. 58s.)

Scottish Agricultural Economics Vol. IX. (H.M.S.O. Edinburgh, 1958. 3s.)

Capitalism Yesterday & Today, by Maurice Dobb (Lawrence & Wishart, London, 1958. 2s. 6d.)

Productivity Measurement Review, No. 15, November 1958. European Productivity Agency.

Economy and History, No. 1, Spring 1958. Institute of Economic History, University of Lund, Sweden.

Pages 79-84 deleted, advertising